UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF OHIO
EASTERN DIVISION

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IN RE: NATIONAL PRESCRIPTION OPIATE LITIGATION

MDL No. 2804

Case No. 17-md-2804

Judge Dan Aaron Polster

This document relates to:
The County of Summit, Ohio, et al. v. Purdue Pharma L.P., et al.

Case No. 18-OP-45090 (N.D. Ohio)

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Videotaped Deposition of
STEVE PERCH
October 18, 2018
9:00 a.m.

Taken at:

Brennan Manna & Diamond
75 East Market Street
Akron, Ohio

Stephen J. DeBacco, RPR

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Jim Torok, Legal Videographer

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THE VIDEOGRAPHER: We're on the record.
Today's date is October 18, 2018. The time is 9:00 a.m. We're here to take the videotaped deposition of Steve Perch in the case of National Prescription Opiate Litigation, MDL No. 2804, Case No. 17-md-2804, to be heard in the United States District Court, Northern District of Ohio, Eastern Division.
Will counsel please state your name for the record.
MS. KEARSE: Anne Kearse, County of Summit and City of Akron.
MS. HERMIZ: Kristen Hermiz with Motley Rice on behalf of the County of Summit and the City of Akron.
MS. TANG: Angel Tang of Arnold & Porter on behalf of Defendants Endo and Par Pharmaceuticals.
MS. RANJAN: Brandy Ranjan from Jones Day on behalf of Walmart.
MS. CALZOLA: Gianna Calzola from Pelini Campbell & Williams on behalf of Prescription Supply, Inc.

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MR. RICE: Justin Rice from Tucker Ellis on behalf of Johnson & Johnson and Janssen.
MS. PETERSON: Miranda Peterson with Williams & Connolly on behalf of Cardinal Health, Inc.
MR. CARTER: Ed Carter for Walmart.
MS. ZERRUSEN: Sandy Zerrusen from Jackson Kelly for AmerisourceBergen Drug Corporation.
MR. EMCH: Al Emch, Jackson Kelly, AmerisourceBergen Drug Corporation.
MS. ROITMAN: Sara Roitman for Purdue.
MR. CHEFFO: And Mark Cheffo for Purdue.
Nick Cummings in my office is here, so he'll make an appearance as Motley Rice.
THE VIDEOGRAPHER: People on the phone?
MR. CHEFFO: Can the folks on the phone please do it one more time for us?
MR. ROSENBERG: James Rosenberg, Marcus & Shapira, for HBC.
MR. WEEKS: And Paul Weeks with

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Kirkland & Ellis on behalf of Allergan Finance.
MS. HOLLY: Pam Holly, Morgan Lewis, on behalf of Teva Pharmaceuticals.
MR. CHEFFO: Okay, sounds --
THE VIDEOGRAPHER: Please swear in the witness.
STEVE PERCH, of lawful age, called for examination as provided by the Ohio Rules of Civil Procedure, being by me first duly sworn, as hereinafter certified, deposed and said as follows:

EXAMINATION OF STEVE PERCH

BY MR. CHEFFO:

Q. Good morning, Mr. Perch. As you heard -- it's Mr. Perch; is that -- did I say that right?
A. Correct.
Q. Thank you. My name is Mark Cheffo, and I'll be asking you some questions this morning. Probably after me, some of my colleagues may have some questions, but we'll see how much we can cover this morning.
You understand that you're under oath today?
A. I -- I do.

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Q. And have you been deposed before?
A. I have.
Q. So you generally know the rules, and you have very good lawyers, but just a few kind of housekeeping ground rules.
If there's anything that I ask you -- that I'm sure will happen from time to time -- that you don't understand or it's not clear, will you just let me know and I'll happy to rephrase it?
A. Okay.
Q. And similarly, if you need a break at any time, for any reason, just, you know, answer the pending question and then just let us know and we'll take a break.
A. Okay.
Q. Would you be good enough to tell us what you did to prepare for today's deposition?
A. Went to Florida. Just got back. Nothing.
Q. Did you look at any documents?
A. I take that back. I did meet with the attorneys this morning for about 15, 20 minutes and a previous time for a couple hours.
Q. Okay. And I don't want you to tell

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me anything that you talked to them about, but was it these two attorneys here?
A. This morning it was. And I think before, I think they were both present as well.
Q. Okay. Were there any other non-attorneys there?
A. I don't think so.
Q. And did you look at any documents at all in connection with this to either refresh your recollection or just orient yourself?
A. They showed me a couple documents. One was a letter about not destroying any evidence. I'm assuming from you guys.
Q. Had you seen that before?
A. Yeah. I got an e-mail on it.
Q. Okay.
A. And a couple of the articles that were published with my name on it.
Q. Okay. Anything else?
A. Not that I can recall.
Q. All right. Would you -- could you give us an overview of your educational background?
A. My undergrad degree was a BS in

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biology from the University of Akron.
My toxicology training was through a special program by -- set up by Akron City Hospital with the Medical College of Ohio, Dr. Forney Jr.
I've taken quite a few postgraduate classes. A year of pharmacology at Northeast Ohio College of Medicine, a variety of additional classes, seminars, et cetera.
Q. And the toxicology training before the postgraduate, was -- did that -- did you wind up with a master's or a Ph.D., or was it a certification?
A. No. It was a -- it was a non-degree program back in the early '80s, I'm guessing. Like '81 maybe. This was a long time ago. I don't know how many toxicology programs there were, if any, in Ohio at that time.
Q. And in the context that you've testified before in depositions -- well, let me ask you this. Have you also testified at trials?
A. I have.
Q. And your providing testimony, is

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that typically in connection with your professional work?
A. Typically, yes.
Q. So you're called upon -- we'll talk about it, but I think you actually serve kind of a toxicology function for a number of different entities; is that right?
A. I do.
Q. And from time to time, those various entities, I take it, call upon you or ask you to assist them or provide testimony on their behalf?
A. Yes.
Q. Would you tell us what you -- I mean, currently, who -- who is it that you -- you currently work for?
A. I currently work -- my primary job is with the medical examiner's office in Summit County.
Q. Okay. And I see from your CV you also do some work with the police, the Akron Police Department?
A. Correct. Four kids, four college educations, need more than one job.
I work with the Akron Police

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Department. I set up their forensic lab over 20 years ago, and I still currently perform -- it's a contract employee, so I do some work there.
I also am contracted with Oriana House as their lab director.
Q. So is your employment, I take it, with the Summit County medical examiner, is that a full-time position?
A. That's a full-time position.
Q. And then to the extent that you work with Oriana or the Akron Police Department, that's kind of above and beyond on your own time?
A. Correct.
Q. In a typical week or month, or whatever it's easiest for you to differentiate, how much time do you think you'd spend at the police department or the police lab or Oriana?
A. With the police department, I typically bill them on the average of about 120 hours a year.
Typically on weekends with the Oriana House, not much time at all. Maybe a couple hours a week at most.

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The main reason they hired me is they wanted to become certified by CLIA, Clinical Lab Improvement Act, and they needed a certain individual that had the requirements to be their lab director.

Initially, it was quite a bit of work to install all the requirements of CLIA. Over the years, basically, it's just a kind of overseeing role.

Q. And are they certified now?

A. They are.

Q. Is the lab at the police department CLIA certified?

A. No. CLIA -- they don't need to be CLIA certified. They don't bill Medicare, any of the government functions.

Q. I see. Is the same true for the Summit County? They don't -- they're not, and they don't need to be?

A. No, they don't need to be either.

Q. And just as a general matter, is -- what's the general nature -- in other words, what -- if the Summit County medical department, medical examiner's office, wanted to be CLIA certified, do they have the

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qualifications to meet those -- those tests?

A. They do, but I don't think CLIA would certify them. Again, CLIA certification is primarily if you're going to bill for government services, for clinical services.

Q. I see. Are there other certifications that labs aspire to, can get, are typical?

A. Yeah. We are certified by Ohio Department of Health, drug and alcohol testing division, for forensic testing.

I have a director's permit for both the Akron Police Department as well as Summit County medical examiner's office.

I also have a couple of different certifications for myself. One is in toxicology, through the National Registry in Clinical Chemistry, and one is in chemistry, through the American Society of Clinical Pathology.

Q. And I appreciate you've -- you've just done it, which is very helpful to, I think, us all, is most of my questions are obviously going to be talking about things in your work in connection with the Summit County

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medical department, but to the extent that, you know, you're talking about the police department or some other organization, it would be great if you could try to differentiate.

A. Sure.

Q. I'll try and ask you if it's not clear, but just so that we're all on the same page, that would be helpful.

And when did you first start -- well, it looks like here you first started working at the Summit County medical examiner in May 2001 and you worked to the present. Does that sound right?

A. Correct.

Q. And you also worked -- started working at Oriana in around 2000 to the present?

A. Correct.

Q. And then the Akron Police Department was 1995 to the present?

A. Correct.

Q. Is that right?

So is it fair to say that -- I don't know if you had a chance to look at this recently. You think that this -- this CV is

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accurate?

A. Yes.

Q. Okay. What -- what is your -- how would you describe your role with the Summit County medical examiner's office?

A. My role is as an analyst, primarily. I actually do the physical testing of all the samples.

Q. Do you have an assistant?

A. I do not. Not a permanent assistant. Initially, I would do summer internships for doctoral candidates. I've had a few from Marshall University, West Virginia University, Ohio Northern. They would -- I would give them a project during the summer. They would write a paper on it, try to get it published, that kind of stuff.

Then I got pretty busy, so lately I've had some summer help. Again, typically a college student. And we actually pay them now.

Q. And is there another person who either performs the same function as you or reports to you?

A. No.

Q. So you're the only toxicologist?

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A. I'm it.
Q. If you are out of the office or on vacation, is there someone that covers for you?
A. No.
Q. And we can break it down, but you've been doing this for a long time, so it might be easier if I just ask you kind of an open-ended question, which is, you know, maybe you could take us through the process of how it typically works with a case.
So in other words, you know, where there's a decedent that presumably comes to the Medical Examiner's office, and to the extent that there's a decision point about whether tox screening should be done or shouldn't be done, how that -- how that works.
A. The decision on should they order a tox or not is up to the pathologist.
Let me back up one step. I do work -- quite a bit of work for our county, obviously, but I do a lot of external clients that we bill. Probably about equal amount of cases.
Talking about our clients in Summit County -- clients' cases, the pathologist will

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make a decision on whether to order tox, and my guess is probably 90 percent of the cases will get tox, if not more.
I get an order that they leave in my door. I retrieve the specimens. The specimens are drawn and stored in a refrigerator within the autopsy room, and I start to do the analysis on them.
When I'm -- when I'm finished with my analysis, I write up a final report and submit it to our secretary, who enters it into the computer system.
Q. Okay. Thank you for that.
And is it the pathologists who actually take the samples initially from the decedent?
A. I don't think so. Typically it's one of the assistants, the labora- -- the autopsy assistants. We have three of them. And they assist the pathologist in performing the autopsy. They'll do a lot of the cutting, and I'm pretty sure they do most of, if not all, of the blood and urine draws and tissues, et cetera.
Q. And when you receive that specimen,

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other than a request for it, do you receive any other information? In other words, is there a format that says, you know, gunshot wound, drug overdose, suspected homicide?
A. Yes. I get a copy of the investigator's report that details what the investigator observed at the scene, if they found any illicit drugs or prescription drugs or what have you. They typically will list all that. So I automatically get a copy of the investigator's report.
And I also get a -- on my -- on the request from the pathologist, they typically will state a one-line summation of "gunshot wound." And they will also circle what kind of samples that they've drawn: blood, urine, central blood, femoral blood, that kind of stuff.
Q. Okay. And -- and does that information that you receive, does that inform your decision-making as to the type of screening you'll do, or is it kind of a one size fits all?
Do you understand my question?
A. Both. It's a one size fits all.

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I'll still do the routine analysis regardless, but, obviously, if they find heroin at the scene, I'm going to remember that. And so my analysis should sort of fit the picture that I see at the scene.
Q. So let's talk about illicit drugs for a minute. So let's assume, you know, it's a -- I'm just picking an 85-year-old man, suspected foul play in a nursing home. Would -- would you run a full drug screen on that person just the same as you would a gunshot or a suspected drug abuse?
A. Yes.
Q. So that's something standard?
A. Pretty much.
Q. Okay. And are there -- and I probably should have asked this earlier. I apologize. But just let me digress for a minute.
Do you understand why you're here today?
A. Vaguely, yeah.
Q. What's your understanding?
A. My understanding is the state and/or several states are suing the

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pharmaceutical industry for dumping potent, addictive drugs.
Q. And do you have any view as -- at all as to whether any of the Defendants in this case did anything wrong or omitted anything? Is that something that's within your personal knowledge?
A. You know, I don't really -- not really. Do -- do I suspect? What I look at is time frames that I see during my work. I see a variety of different drugs and different eras. You know, in the '60s and '70s, we were all doing LSD and pot. You know, then, a variety of prescription meds.
And again, I base this strictly on what I'm seeing while I do the analysis. You know, a rise and fall of certain drugs, and, you know, the rise and fall of carfentanil and Fentanyl analogues, the rise and fall of coke and meth and all these things. So, yeah, I have a general idea of what kind of drugs I'm seeing in different periods of time.
Q. Sure. And we'll -- we'll talk about that. You've actually written a paper about some of that, right? At least in the

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last number of years.
A. I -- I was involved in writing the most recent paper dealing with carfentanil, if that's what you're referring to.
Q. It is.
A. Yeah.
Q. But just to make sure, my -- my question is a little more specific. As to any of this -- I mean, first of all, do you -- do you even know who any of the Defendants are in this case?
A. Not really, no.
Q. Have you read the complaint?
A. Not really.
Q. I mean, do you have a view or information as to whether any of the Defendants breached a duty, did something wrong, have any responsibility in this litigation?
MS. KEARSE: Object to form.
A. No.
Q. The -- let's get back now to your -- your kind of -- your work.
With respect to the -- what do you call it, like a standard tox panel? Is that how we can refer to it?

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A. Sure.
Q. Okay. With respect to that standard tox panel, are there certain parameters that you use in order to perform the test?
In other words, if it's, let's say, cocaine, is the test basically, if it's at a detect level, you report it, as opposed to if it's some other thing like alcohol, like you may basically not report unless it's above a certain level?
Do you understand my question?
A. Yeah. Can I give you a quick synopsis?
Q. Absolutely.
A. A standard tox panel -- and remember, each case is unique in that if I get a blood and urine and tissue, whole different game than if I just get a blood sample.
Q. Can we stop there?
A. Sure.
Q. And tell me why.
A. Because drugs are eliminated by the body in different ways. Every drug is different. Every drug is unique. Some of my

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assays are unique.
Ideally, it's nice to get a urine and a blood, ideally. Obviously, drugs are eliminated out of the blood rapidly, and they'll hang around in the urine much, much longer. They're much, much concentrated. So urine is an ideal sample type for screening purposes.
So with that said, I will start with an immunoassay screen that's fairly comprehensive. It's geared on urine. It's run on urine. I -- I do run it on blood as well, but the levels are set rather high. Again, geared toward urine.
These are the same immunoassay that everybody uses. There's a lot of history to this, and I don't want to go into the explanation why it's like that, but basically because the federal government set these limits. They're the biggest purchaser of these kits, so every manufacturer is going to go with the federal guidelines in terms of the thresholds and the detection levels on these -- on these drugs. So we also do. The Department of Transportation of Ohio does. All the other

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entities will go with what the federal government standards are.

So I purchase the kit through various manufacturers. I happen to use Siemens. It used to be known as EMIT. I still call it EMIT. But, again, it's an immunoassay, and it screens for cocaine, methadone, opiates, amphetamines, which is pretty much methamphetamine and amphetamine, barbiturates, benzodiazepines, alcohol, a variety of drugs. And there's more. So that's the initial screen.

The next phase, of course, is -- well, for me, is alcohol. I will do an alcohol by gas chromatography on blood if it's available.

The next phase is if there's any positives from that screen. You mentioned cocaine. My next step would be, since I got a positive screen for cocaine, I will do a quantitative level on the blood to see how much cocaine. And typically it's going to be benzoylecgonine, the primary metabolite of cocaine, is in the blood. And I will do that by GC-MS.

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Q. Can I just stop you for a second?

A. Sure.

Q. With respect -- and that's really helpful. Thank you for that.

With respect to the urine analysis, you used the word "screen" a few times. Is it really just that?

So in other words --

A. Positive/negative.

Q. So -- oh, so you can't -- that doesn't really tell you very much about -- other than it's there above a certain threshold.

But if you want to -- sometimes in the reports we've seen, we've seen .639 nanograms per, you know, some other differentiating. That level of certainty or precision comes from a blood analysis?

A. For our cases it's blood. Will I quantitate urine on our cases? No. But I do quantitate urine for law enforcement, because law enforcement, the state has per se levels, for example, cocaine.

So, yes, I will quantitate a cocaine level in urine for the -- for a

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forensic analysis on a law enforcement agen- -- for a law enforcement agency, because, again, they have per se levels on certain drugs in urine.

Q. So it is -- it is possible. It's just not the protocol and the procedure in urine to quantitate it for specific illicit drugs; is that right?

A. Correct. And in reality the urine level is pretty much worthless. I'm not sure why the state came up with per se levels on these things, but I didn't make those rulings.

Again, the problem with the urine -- and marijuana is a perfect example -- you can get a urine positive for weeks and there's probably -- could have been nothing in the blood. So if -- you know, if the guy smoked some pot two weeks ago and he's still positive in the urine, according to the state, if it's over 15 nanograms of delta-9-carboxy-THC, he's impaired, where in reality he probably has nothing in his blood and he hasn't smoked in over a week. So, you know --

Q. Uh-huh.

A. But again, the state levels are the

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state levels. That's their problem.

Q. Okay. And before we get to the blood confirmatory, how -- I take it, like with most things in science and medicine and technology, there is a chance of, you know, false positives and false negatives.

A. There is.

Q. Is the same true for a urine assay?

A. Absolutely.

Q. Is -- is that something that is different for a particular substance? So, in other words, I -- well, strike that.

I take it that they probably publish, like, what their rate is.

A. Yeah, they do.

Q. All right. So is it, you know, a percentage overall, do you know, or is it something that's different by -- by kind of substance?

A. The reliability of these assays is fairly high. Certainly over 90 percent. I think most of them are going to say 95 percent or higher. With -- there are a few exceptions.

For example -- now they've come up with better assays. At one time the

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amphetamines, for example, cross-react with ephedrine and pseudoephedrine, so you'll get a positive. But you're really not sure if, is it amphetamine, methamphetamine, MDMA, ephedrine? So, again, it's important to confirm and identify what's causing a positive.

Opiates, same thing. Just because you've got a positive opiate, that's great for the emergency room doctor because he's going to treat an opiate overdose the same way. For our intents and purposes, I have to identify what it is and how much is in the blood.

Q. And is -- are there certain illicit substances that you can detect in one but not the other with -- you know, with a level -- a level of accuracy? In other words, is there something XYZ chemical that there's really not --

Well, let -- let me just ask you a better question. Take carfentanil, for example.

A. Okay.

Q. Is carfentanil something that is equally detectable to, you know, a reasonable degree of certainty in both urine and blood?

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A. That's not -- there's no easy answer to that.

Q. Okay.

A. You start with the screen. The screen is close to 100 percent cross-reactive between carfentanil and Fentanyl. So pretty much the same amount of carfentanil will give you a positive as regular Fentanyl, so you get a positive screen for Fentanyl.

Now, that's with my assay. There's different assays out there. I'm familiar with my assay made by a company out of California called Immunalysis. That's what I use for Fentanyl. There's several other companies that manufacture it.

And it's an antibody-antigen competitive binding technique, so it's -- a lot of it is based on the antibody that that particular manufacturer has, how specific is it, how good is it, what their detection level is. And they do, in theory, cross-reactivity studies for all the Fentanyl and Fentanyl analogues as well.

Carfentanil is unique in that -- as well as the analogues, is that they were never

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around except for the last couple years. And all of the sudden we got inundated with a variety of not just carfentanil, but a -- it seemed like every month a new Fentanyl analogue was popping up.

So the screen was -- was tough because we really didn't know what percent cross-reactivity there was with all of the Fentanyl analogues. So you get a positive screen.

I guess I'm hoping to answer your answer -- or your question.

Q. No, you're answering it. You are.

A. Then you need to confirm it.

By the way, I do not turn out screen answers. The screening is strictly internal. I don't turn out any answer without a confirmation.

The screening is for my purposes. It tells me what I can suspect is on board. If I get a Fentanyl or a carfentanil or any other positive by the screen, that's strictly for my use.

Q. Is that only true for Fentanyl or carfentanil, or is that just generally --

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A. That's true for every drug I do.

Q. So if it's -- so is -- does that -- even being broader, a screen would be any urine testing is just a screen tool --

A. Just a screen.

Q. And when you say you don't turn it out, you don't think it has a level of reliability such that it should be public; it's just -- it's a tool that you use to help inform further analysis?

A. It's a tool I use -- it's not that, a matter of reliability. It's a matter of having an alternate method. It's a good laboratory practice. You have to confirm a positive by an alternate method to ensure that there's no false negative, false positive.

Q. And that's -- that's the way it works in every single case?

A. That's the way it should work in any forensic lab.

Q. Okay.

A. That's the way it works in my lab.

Q. So it would -- it would not be your practice to release a urine screen, a positive, as kind of a reliable decision -- reliable

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factor in making decision points until you had some other confirmatory testing, like blood or -- or other tissue --
A. Correct.
Q. -- specimens; is that right?
A. Correct.
Q. Is -- is the way you've just described this process, is that the same way it's used for law enforcement? When you work for the Akron PD?
A. Yes.
Q. The same assays, things like that?
A. At the Akron PD, when I first set up the lab, they wanted me to do full tox for them. They only do a couple dozen drug screens a year, but they'll do dozens and dozens of alcohols, and they were willing to buy me whatever I needed.
And I basically told them that it was -- it would cost them $1,000 per tox screen when they're only doing a couple dozen a year. So my suggestion was let me just do the alcohols there at the police department and the pure drug contraband.
And the toxicology we'll send to

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the medical examiner's office like all the other law enforcement agencies do, where I'm prepared, and it's much more cost effective, rather than doing one sample, you know, every couple weeks for full tox, I'll throw it in my batch at the medical examiner's office, and it brings the cost down substantially.
Q. It's more --
A. So that's what we're doing.
Q. -- more efficient to pool those resources?
A. Much more efficient, yes.
Q. And is this -- is it -- am I correct that the same methodology and same standards that you apply in doing the testing for the ME's office is the same that you do for the police departments?
A. Correct.
Q. In other words, you don't -- you don't look at them differently. Basically, you're somewhat blind to, you know, the way you're approaching this. Is that -- is that fair?
A. It's the same approach. The only difference is, as I said, with some of the

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forensic cases, I only have a urine sample, and I will give them a quantitative answer if it's a per se drug.
Q. And with respect to the urine screen, what are the next steps -- and let's -- let's talk about, you know, some of the -- the illicit drugs like, you know, carfentanil, Fentanyl -- well, let me take a step back.
You appreciate, I'm sure, that there are certain drugs or certain substances, like cocaine and heroin and probably carfentanil, that don't have a legitimate medical use, right?
A. Well, cocaine does. They used to -- when they did nose surgery, they used to pack your nose with cocaine. I don't know if they still do or not, but --
Q. Well, let's assume that they don't for -- for just argument's sake, or else maybe people may be getting nose jobs.
But with respect to something like Fentanyl --
A. Right.
Q. -- right, you know that it's a -- it's a legitimate --

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A. Absolutely, sure.
Q. So it can either be powdered illicit Fentanyl, right, or it could be Fentanyl that's used in a -- in a medicine, right, that's -- that's actually legitimate?
A. Correct.
Q. Okay. So just Fentanyl, as an example, where just finding a Fentanyl kind of positive doesn't necessarily tell you anything about whether it's lawful or illegal; is that right?
A. Not just from the analysis, no.
Q. Right. I mean, in anything, can -- that you do in terms of from a tox perspective, can you ever determine whether it comes from a particular brand or a particular manufacturer?
A. Strictly from the analysis, no.
Q. And in terms of Fentanyl, can you make a determination as to whether it's from a prescription -- a Fentanyl prescription or whether it's from illicit?
A. No.
Q. And we had a -- a chance to speak to -- to Dr. Kohler, and I had a few questions, and she actually said that you would be the

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person to talk to.
Maybe you could help us understand how heroin sometimes shows up in the blood, I think it was as morphine, when it breaks down? Am I getting that right?
A. Yes.
Q. Could you explain that a little bit for us?
A. Heroin is actually diacetylmorphine, and it lasts as that -- as the parent compound, diacetylmorphine, as -- which is the parent compound, for about 10 minutes, generally.
I'll give you a range since people are writing down the 10 minutes. It's 5 to 15 minutes. But generally it routes -- let's just say, 10 minutes. Then the body breaks it down into 6-acetylmorphine or 6-monoacetylmorphine, the primary metabolite of heroin. Again, for another 15 to 30 minutes. This is blood, now, I'm talking about. And after that, it's all broken down into morphine.
So you've got a narrow window to detect heroin in a form that I could say it's heroin, in the blood. Again, 20 to 40 minutes.

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Q. And can I ask, does that -- does that process continue -- in other words, is that time frame post-death? So --
A. No. This is -- when you're living and the body's working on those drugs, the liver, the kidneys, et cetera, they're breaking all these drugs down to get rid of them.
Now, during that half hour to 45 minutes that you're doing the heroin, mind you, it's also dumping it all into your urine because it's -- it's eliminating it all.
So in the blood, after 45 minutes -- and this is a general time frame -- after that initial 45 minutes, all you're going to see is morphine because all the rest of the stuff has been broken down and/or eliminated.
So when I say morphine in the blood, in most postmortem cases we -- we haven't drawn that sample while the guy was alive, obviously, so we're going to see -- I'm not going to ever -- or rarely ever am I going to see the diacetylmorphine or the 6-monoacetylmorphine in the blood.
Q. Let me just ask you, if in an unusual situation someone took heroin, died

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within 15 minutes of it, would that essentially stop, kind of time-out the process, and then if you took a blood sample, you'd likely be able to see that?
A. Possibly I may be. And I've tried to see it. Again, there's a lot of other issues involved.
Q. Right.
A. I'm just kind of gen- -- give you, in a general idea.
Q. I understand.
A. There's a lot of other issues.
Q. No, I understand.
A. Postmortem redistribution, the decomposition, et cetera.
But anyway, generally, I rarely am going to see heroin as heroin itself or as a primary metabolite. I'm only going to see morphine in the blood.
Now, in the urine I will detect all the -- I certainly will detect the primary metabolite, the 6-monoacetylmorphine, in the urine, as well as morphine. So I will detect it in the urine probably a good 24 hours.
And a lot of our death cases, they

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linger. They don't -- you know, unless we find a syringe in his vein and the guy's dead at the scene with a syringe sticking in his vein, typically that's not how most -- most of these ODs die. They'll linger for a while, and linger and linger, and then an hour later they're dead because their organs start shutting down. And that's typically how an overdose death works.
Q. So -- so when you see the morphine in the blood, the way that you would have a better ability to determine whether it was heroin was by looking at the urine --
A. Correct.
Q. -- to the extent that you could do it.
A. Or vitreous.
Q. What's that?
A. Eyeball fluid.
Q. Okay. And there was some reference to free-morphine. Is that a -- what does that mean?
A. Morphine is highly protein-bound. It's bound to a glucuronide. The bound portion -- and I'm guessing. I don't have the

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literature in front of me, the reference book. It's probably 85 percent bound. It's bound to protein.

The bound portion is not the active portion of the drug. It's the free portion that goes to the binding sites within the brain, and that's where the -- where the action takes place, the effect of the drug.

So the free portion is what we monitor, because that's the deciding factor. Most of the reference ranges in literature are referring to free portion of drug.

Q. Okay. Do -- do you make any -- well, strike that.

I take it the final determination as to cause of death is a medical doctor or a pathologist who makes that determination; is that right?

A. Correct.

Q. That's not something you do?

A. No.

Q. Your information and work is -- is used to assist him or her, but -- but that's their responsibility; is that right?

A. Absolutely.

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Q. Do you ever consult and have discussions about cases from time to time?

A. Yes.

Q. Is that with some fre- -- that wouldn't be unusual to do that?

A. It wouldn't be unusual.

Q. And are there certain times -- let's talk suicide, for -- for example, right? There are -- you know, I've been looking through some of the materials -- and I'll show you in a minute to see if they refresh your recollection -- but -- but there's some even lawful, very legitimate things, benzodiazepines, maybe even some SSRIs, right, that people take, you know, regularly, but at very high doses can be fatal. Is that -- is that fair?

A. Yes, yes.

Q. And often when you see, right, a kind of a cocktail of these otherwise legitimate medicines in a -- in a very -- kind of all at the same time in a decedent, it raises at least a question of whether it was a suicide; isn't that right?

A. I would --

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MS. KEARSE: Object to the form. Just the form, excuse me.

A. I would think. Again, I don't make those decisions. That's up to the pathologist.

Q. So do -- do you ever communicate that type of information?

A. They have all the information. My primary goal is to do the analysis and give them a number, a level of whatever drug I find. Whether it's suicide or whether it's mixed drug toxicity or whether it's, you know, a heroin overdose, that's their call.

Q. And have you seen the actual autopsy -- autopsy reports?

A. I don't know if I have.

Q. Let me -- let me just show you this, what we're going to mark here as -- as Exhibit 1.

MR. CHEFFO: Just for everyone's -- this is for the lawyers, Mr. Perch. But just for everyone's edification, this is going to be what we marked yesterday as Exhibit 2. It's the same document.

He's going to put a sticky on it for you.

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(Thereupon, Deposition Exhibit 1, Document Titled "Drug Overdose Deaths, 01/01/2016 to 12/31/2016," SUMMIT_68523 to 000068568, was marked for purposes of identification.)

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Q. Mr. Perch, I'm not going to ask you excruciating details about any of these, but I'm just going to ask some general questions.

Have you seen a document like this?

A. This looks like something that Pat would have pulled up. I -- I've actually asked him to pull up various things from the computer system for me, and it looks very similar.

Q. Pat is who?

A. Pat was our IT guy.

Q. He's retired now?

A. He is.

Q. Does he still work on a consulting basis?

A. He did for a little while, because the computer system we used, I think, was his design, so we're in the process of switching

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over.
Q. Is there someone who fills Pat's role?
A. Well, our county computer services is -- has taken over.
Q. And on what -- what -- on what occasion would you ask -- what was his last name? I'm sorry.
A. Gillespie.
Q. Mr. Gillespie. Has -- have you -- what occasions would you have asked Mr. Gillespie to run reports like this for?
A. A lot of times I ask him to pull up the homicides so I can get rid of samples. Homicides I keep for five years. The rest of the samples, I was just overwhelmed with samples, and I don't have the space to store them, so I'll have him pull up a list of all the homicides. And when I have the guys get rid of my samples from a previous year, I give them a copy of that list and say, "Save these." Things like that.
Q. Okay. Yeah, and what is the -- what is the policy for samples and things? Is it one year, typically, other than homicides?

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A. The homicides are five years. Undetermined deaths are five years. The rest of them pretty much one year.
Q. And that's still in place?
A. As far as I know.
Q. Now, if you just take a look at this document, you'll see there's a number of entries, right, and it tells you where the specimen came from. It says "blood" on the right. I'm in the "Toxicology Results" section.
A. Oh, yes.
Q. Do you see that?
A. Uh-huh.
Q. And I'm trying to find -- most of these are blood, but let me -- okay.
So just take a look, if you would, please, at page 22. It's on the bottom right-hand corner. There's little numbers there. And look at 55688. Do you see that?
A. Correct.
Q. So that is a urine sample, right?
A. Yes.
Q. And it says "None detected." Do you see that? Right above it.

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A. I do.
Q. So if -- if nothing was detected, would you essentially, you know, pass go? Would you go further and do a blood test, or is there other results that we would look for, for -- in this case, you can see the cause of death is listed as carfentanil.
A. Well, it wouldn't be a carfentanil toxicity if there wasn't carfentanil in it. Keep in mind, carfentanil is unique in that my equipment is gas chromatography-mass spectrometry. The detection level is probably about 1 nanogram per ml.
In the majority of the cases, I can detect carfentanil in the urine, because, as I mentioned before, urine -- drugs are concentrated quite a bit in urine, sometimes 100-fold. So I can detect carfentanil in the urine in most cases.
I can't in blood, just because it -- you're talking levels down in the picogram range now. You know, the levels versus Fentanyl are 100 times lower in most cases just because of the potency of carfentanil. And I don't have the equipment

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necessary to go below 1 nanogram per ml.
So I don't even -- I initially tried to set up an assay, but I just could not get below 1 nanogram per ml. It's the limit of the equipment I have.
What you need is something known as LC-MS-MS. And I tried to buy one, and it was about $300,000, and the county wouldn't let me have one. It was really more cost effective for me to send out the samples to reference labs.
And that's probably what I did in this case. I don't know what this summary report is, but I can tell you right now, my -- my guess is, in this particular case, I didn't detect it. If this is my report, I probably -- I found no carfentanil in the urine, and I probably sent it out to a reference lab -- and I always send out the blood -- and they probably -- I'm guessing, since I don't have the actual report --
Q. Understood. Understood.
A. -- that they probably found carfentanil in the blood.
Q. I see. And I -- what you're saying

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is fair. I know you don't make the cause of death. I'm really not asking you detailed questions. I just picked that one as an example. You'd have to look at the file, right?

A. I would have to look at the file.

Q. Right.

A. Yes.

Q. So we're talking in generalities.

A. Yeah.

Q. So as a general matter, if -- if there was, let's say, you know, an investigator's report that found someone who was deceased, right, and they wrote that there was drug paraphernalia around, you would run your tox screen, and the fact that it was not found -- carfentanil was not in the urine, you would then make a decision to send it on to -- for a blood testing?

A. Correct. And in some instan- -- some instances, even if I detected it, I would send it out.

I'll give you an example. Three young ladies, 20-year-olds, all found dead. I did the analysis, and again I found ecstasy or

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MDMA and carfentanil in all three in their urines.

Since this was going to be a high-profile case and probably a court case, Dr. Sterbenz asked if I could get levels on the blood, which I did. I sent it out to a reference lab, and sure enough, I did -- they identified the same thing I did, that I found in the urine, but they found -- obviously, I sent out the blood, and they gave me levels for the MDMA and the carfentanil in the blood.

Q. And -- and you -- in your work both with the ME and in the police department, you know, this cross kind of referencing, are there situations where the -- like the one you just described, that it could be at least a suspected homicide?

So in other words, you know, we've all read stories, right, in the popular press, a young person typically, right, goes and they buy what they think is, you know, marijuana or something else, or even maybe Fentanyl, and it's laced with carfentanil, right? And then they -- they don't mean to overdose. They don't know what they're getting. Is that -- is

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that -- does that come into your analysis?

A. I don't know if it comes into my analysis, but I -- you know, that's in the paper, in the newspapers. I read it a lot. When the police department confiscates a bindle or a baggie of powder, everything is heroin. They always say, you know, "We suspect some sort of heroin." Even the users, I was told by some of the narcotics detectives, that they were asking for the, quote, "zoo heroin," meaning the carfentanil.

So, I mean, you know, I -- I take it all with a grain of salt. I wait for the mass spec to see actually what it is.

Q. Now, just somewhat by accident, I guess, but it's easy for us. Look at the, if you would, on this, the one I just asked you to look at, the urine. So that was 55688. Just take a look, if you would, at the one right above it and the one right below it, right? Because in the carfentanil, it does actually have a blood testing, so I'm going to ask you just about that. And then the one below it, it actually looks like there was a positive urine test for carfentanil.

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So I guess my question is -- Mr. Perch, is, would it be your belief that if it says blood carfentanil present, that that would have been something you sent out to a lab because you didn't have the ability to make that determination?

A. Correct.

Q. And would it also be your -- your belief that the urine sample that showed positive carfentanil amongst these other drugs would have been something that was done in-house?

A. Probably, but it took me a while to set up a method to test for carfentanil. Initially, when -- when we first started seeing -- and I distinctly remember the day that we saw carfentanil in Summit County. It was the 4th of July weekend.

Q. Right. And this is just -- so to orient you, this is just a few weeks later?

A. It's a few weeks later. So at that time, I was scrambling. Nobody had ever heard of carfentanil. I called every refer- -- National Medical Services. I don't know if you're familiar with NMS.

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Q. I've heard of it.
A. It's a huge reference lab that pretty much the whole country goes to. Axis out at Indianapolis, AIT. I called around, and nobody had even heard of it, let alone test for it.
Q. And how did you do -- so was it showing up as, like, a positive Fentanyl? How did you even know that there was such a thing that was being ingested called carfentanil?
A. We received a ton of paraphernalia from the narcotics officers on that weekend. And they told us basically they just -- there was, like, 25 overdoses, all admitted to the -- on that day, admitted to various emergency rooms throughout the city. And they had all the contraband: spoons, straws, baggies, bindles, all kinds of stuff. So we tested that, and it came up with a hit for carfentanil.
Initially, I -- my partner and I looked at each other, and -- I never heard of carfentanil, and neither did he. So we looked it up, and sure enough, it's some sort of an animal tranquilizer.

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We called the Akron Zoo, talked to the vet. He told us they didn't have any animals large enough to warrant them keeping carfentanil on hand, and recommended the Cleveland Zoo. So that's where we first --
We actually contacted -- contacted the Cleveland Zoo and sent an officer, along with a copy of our DEA license, Ohio Board of Pharmacy license, before they'd give us some of that carfentanil.
Q. I see. And -- well, thank you for that. That's --
So this -- this may have been a time before you had -- you know, you were able to kind of get your arms around it. But at -- but at some point, if we were to look a year or two later, now you actually have the ability to do a urine test.
A. I do. And probably a couple months after that, I had the ability. Initially, the only lab I could do, that would do carfentanils for me, was in Columbus. The coroner's office in Columbus, Dan Baker, is a friend of mine. He runs -- he's their toxicologist, and I was telling him what we were seeing.

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I actually sent him a sample of my carfentanil standard that we got from the zoo, and he set up an assay for us. He has two of the LC-MS-MS systems down there.
Q. Are you -- in 2018, are you, in the labs, continuing to see deaths related to carfentanil?
A. No.
Q. It's pretty much done?
A. Pretty much done.
Q. Has another Fentanyl analogue taken its place?
A. Fentanyl. Fentanyl has roared back, regular Fentanyl. Probably illicit Fentanyl, I'm suspecting, but...
Q. I mean, Dr. Kohler believed that most of it was illicit Fentanyl. Would that be your understanding?
A. That's my guess.
Q. Uh-huh.
A. And it's an educated guess based on a lot of times at the scene -- and the scene is very important -- they will find paper, a bindle, powder, a straw, a spoon, a syringe, and I will typically test those as well,

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because it's a -- it's important to know what's at the scene. Obviously, if I find a syringe sitting next to the body and it's got Fentanyl in it, I highly suspect that there would be Fentanyl in the system.
Q. Do you know what OARRS is? Have you heard of that?
A. OARRS?
Q. Yes, sir.
A. Yes.
Q. It's a -- it's a system that enables professionals, doctors, right, to look and see if someone is prescribed a controlled substance?
A. Yes.
Q. Do you make use of OARRS?
A. Occasionally.
Q. Would a -- would a circumstance like this, like Fentanyl, is that something you would look for?
A. No. I look at OARRS when I have nothing. When I find nothing and they suspect some sort of an overdose.
Most laboratories have a limited amount of drugs that we can test for. Am I

going to test for every drug out there? Absolutely not. I test for the majority of drugs that are going to be lethal and toxic. So not all prescription drugs.

So typically when I look at OARRS is I've done everything I can, and now I'm starting to research the case because the docs tell me that they highly suspect something that they overdosed on and I'm not finding anything. So I will look at OARRS to see if there's any prescriptions that are unique to that individual that I don't test for.

Q. And let me just ask you maybe for a different purpose, and it sounds like you don't -- you don't need to do this, but let's assume it's a Fentanyl, right? You're certain you don't need confirmation that it's Fentanyl, but a question might be for someone else, it sounds like, is this from a prescription or is this from street drug? One way of perhaps answering that question would be to look at the OARRS database, right?

A. Correct. Yeah.

Q. To find out if they're actually -- Dr. Smith --

A. Of course, again, that's -- you make that assumption. Just because a person has a Fentanyl prescription doesn't necessarily mean that's what I found, you know. They could have also gotten illicit Fentanyl.

So, I mean, you know, there's a lot of ways to look at that. But do I look at that? No. That's not my role. I -- unless I'm specifically asked by the pathologist, which I can't remember ever them actually ever asking if it was a prescription or illicit. Fentanyl is Fentanyl.

Q. All right. In your experience, even people who have prescriptions can otherwise abuse medicines and go outside the system?

A. It's possible, sure.

Q. I asked you about carfentanil, and I think you told us you hadn't seen or don't recall seeing a case this year.

A. No, no, no. I didn't say I haven't seen a case this year.

Q. I'm sorry.

A. There's been a tremendous drop-off.

Q. Okay. Sorry. I didn't mean to --

if I -- I'm not trying to mischaracterize it, so if I get it wrong, please do exactly what you did and tell me.

So -- so there's been a drop-off. Hasn't disappeared completely?

A. At the beginning of the year, there was a few cases. I can't recall seeing anything in the last few months. It's -- it's pretty much all Fentanyl. If I get a positive Fentanyl screen, it's kind of back to when -- prior to the carfentanil epidemic, that I call an epidemic. Now I can pretty much -- 100 percent of the time I'm going to just find Fentanyl.

Q. What about oxycodone? Do you -- do you recall this year finding any, many deaths that were attributable to oxycodone?

A. I found oxycodone. Again, it's not very common this year, but I do see oxycodone. If -- if I attributed it -- excuse me -- I -- I -- I don't know how how -- if any of them were involved as far as a lethal nature or not.

Q. What about hydrocodone?

A. Again, occasionally. I don't see hydrocodone -- hydrocodone, oxycodone,

oxymorphone, hydromorphone, a lot of those prescription meds have really dropped off. Really dropped off the last couple years.

Q. And we talked about carfentanil. But is a driver of the overdose deaths attributable to illicit drugs, is it methamphetamine these days and illicit Fentanyl?

MS. KEARSE: Object.

A. I'm seeing an uptick this year in meth. A big uptick. Methamphetamine, cocaine, and Fentanyl. Those are the big three right now.

Q. And -- and methamphetamine and cocaine are not opioids or opioid derivatives, right?

A. They are not.

Q. Fentanyl is?

A. Fentanyl is an opioid.

MR. CHEFFO: Okay. We've been going about an hour. Do you want to take a five-minute break? Is that all right?

THE WITNESS: Your call.

MR. CHEFFO: It's actually more for me than for you.

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THE WITNESS: That's fine.
THE VIDEOGRAPHER: Off the record, 10:02.
(A recess was taken.)
THE VIDEOGRAPHER: We're back on the record, 10:12.
MR. CHEFFO: All right. We're back on, Mr. Perch.
BY MR. CHEFFO:
Q. Just a quick few followups on some of the things we were talking about earlier.
You mentioned what I understood to be kind of a reference to trends in certain -- I think you used the word "epidemics" or, you know, "drug crisis," right? There's -- in the '60s or '70s, there was LSD.
MS. KEARSE: Object to form. I think you mischaracterized part of that.
MR. CHEFFO: Did I mischaracterize that?
MS. KEARSE: Yeah. I think you used the word "epidemic."
A. Trends. The only time I think I used "epidemic" was for the carfentanil.
Q. Okay. So there were -- trends in

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what, were you referring to?
A. Trends in types of drugs that I would see. Just like I mentioned, this -- this year I'm seeing coke -- cocaine, methamphetamine, and Fentanyl.
Q. And over -- if we were to go back the last 10, 20, 30 years, would it be fair to say there would be different trends? Like, so for example, in the '60s and '70s, it might have been LSD. In the '80s and '90s, it might have been cocaine and crack cocaine. Then there was -- are those the type of trends you're talking about?
MS. KEARSE: Object to form.
A. Yes. Sort of.
Q. And that's just there's different, kind of, drugs of choice that seem to occur generationally; is that fair?
MS. KEARSE: Object to form.
A. In the '60s and '70s, yes, because there was a -- I felt that there was a subculture of drug abuse in the '60s and '70s. I grew up in the '60s and '70s. The Vietnam war and all those things were factored into that time.

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Q. I'm sorry. Can I just say something? You know, I remember reading articles about Vietnam soldiers coming home --
A. My friends.
Q. -- with heroin addictions, right?
A. Heroin, LSD, a lot of hallucinogenics. I think that era was big into hallucinogens: peyote, LSD, you know, mescaline. That kind of ended, and I don't know the exact years or dates.
As I said, we had the draft back then, and, you know, I was looking for that number when they pulled my birthday. We didn't want to go to Vietnam. I had a lot of friends that did.
But when that era ended, you know, it was a different time. Now, back then, when I first -- my first job was City Hospital in Akron. It was a clinical setting. We started forensics after I -- I set up toxicology.
So I could look at -- it was a different setting because, again, a lot of our work was geared toward clinical work. Therapeutic drug monitoring was big, you know. You prescribe a drug, they want to make -- and

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they would follow the cases and make sure the person was compliant, the patient was compliant, or -- and they weren't abusing the drug, that kind of stuff. That was one aspect of it.
And, of course, the other aspect was for the emergency room monitoring overdoses. So that was -- I was at City Hospital for 25 years and I've been with the medical examiner's about 17 and a half. Over that period of time, yes, I saw various trends.
Q. Would -- would some of those be, you know, crack cocaine?
A. Crack cocaine has been around quite a bit, yes.
Q. And throughout that whole time, heroin has always been kind of a subtext? I mean, it's never disappeared, has it?
MS. KEARSE: Object to form.
A. Heroin was rare, at least in Summit County. In my opinion, I really don't think we saw much heroin until probably the last three, four years, maybe, when -- when -- probably the last two years was the biggest -- the most heroin I've seen in the 18 years that I've been

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with the ME's office.
Q. What about methamphetamine?
A. Methamphetamine, again, wasn't very popular for a while, until -- and I'm guessing -- four or five years ago. It -- it -- it really hit our area hot and heavy back then. Then it kind of died out, and now it's back again.
Q. And what about cocaine?
A. Cocaine has always been around. I don't know if it's -- and again, I don't know if it's the crack form or the powder form. That's why I just say it's cocaine. But it's always been around, and it ebbs and flows. Right now, we're -- we're at a peak of the hill, so to speak. We're -- we're seeing -- I'm seeing a lot more than I normally see.
But, you know, in a month from now, it may die down a little bit, but it's always been around.
Q. In -- let me ask you just a few questions, since I have, you know, your expertise here, about the levels. Right?
So I know you -- you -- you testified earlier a little bit about how the

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assay levels, at least as I understood your testimony, were set essentially by a government standard, and then these companies that make these assays essentially create their products to meet the government standards.
A. With the immunoassay screenings, yes.
Q. And let me ask you just a different -- well, strike that.
That's for detection levels, right?
A. Correct.
Q. Is there any rule of thumb or more than that, you know, scientific literature or standards, that would set toxic levels for -- you know, for substances?
Like we've probably all heard, you know, being non-toxicologists, the dose makes the poison, right? I think we've all heard if you drink enough water, it could be toxic.
With that kind analogy, in other words, is there a certain kind of standard that says, you know, if you have one certain unit of cocaine, it's in your blood, you may have this illegally, but it's -- it's very unlikely to have been a cause of death or an overdose?

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Do you understand my question, sir?
A. Yeah. Therapeutic versus toxic versus lethal.
Q. Yes, sir.
A. What level? Where does that level fall?
Q. Yes, sir.
A. Is there one standard? No. There's multiple standards. It's really whose reference are you looking at. There's a -- there's a number of references that are highly reputable. One is the -- the book I always refer to is authored by Randall C. Baselt, and I think it's called "Toxic Drugs and Chemicals in Man." It's kind of my, quote, "Bible."
Q. Uh-huh.
A. It's got references for just about all the drugs that -- I think the current issue is the 8th or 9th Edition. It's a wonderful book.
But there's others. The Allegheny County has come out with a little chart of, again, therapeutic/toxic/lethal levels.
There's North Car- -- Chapel Hill, is that North Carolina?

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Q. Uh-huh.
A. Their medical examiner has, again, a thing of -- like this with all the drugs and the various ranges of levels. And if you -- and multiple others. And if you look at all these, they sort of overlap each other, and they're all a little different.
Q. And do they do what you suggested; they'll basically tell you kind of a range of what would be a toxic level versus what might be therapeutic versus --
A. Correct, they do. And they also -- also warn you that you have to look at tolerance, route of ingestion, femoral or central blood. There's a lot of other things you need to look at, not just the number.
Q. Right. Am I correct that it could even impact the individual, right? So in other words, a person who's a 350-pound male, 6 foot 9, might have a different tolerance level than a male who's 5 foot, 120 pounds? Does that have an impact?
A. It will have an impact on the amount of drug they need to take to get to that level. So a 300-pound individual will need a

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lot more of the drug to get to 100 nanograms per ml in his blood versus a 100-pound per -- individual. But once they get to that level, it's still the same level in that individual's blood. It's 100 nanograms per ml.

As I said, one person may have to take 1,000 milligrams, versus the other one may only take 100 milligrams, but that level is what you're looking at, the blood level. And that level is pretty much consistent in terms of toxicity, regardless of the weight.

More important is the tolerance, route of ingestion. You know, did he snort it? Did he inject it? Did he eat it? Those things are much more relevant because that tells you if the individual -- if the level was a big bolus, a huge influx of drug, rather than a slow time-release type of mechanism.

Q. I see. And so just by looking at a blood level, it really doesn't tell us -- or we can't really know how much that person ingested; is that fair?

A. In my opinion, it's very difficult to tell.

Q. And -- and you're happy to -- I'm

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happy to have you look at this if it would help. I was just trying to find an example.

But there are some times where there's a number of -- there's a number of -- there's a number of drugs listed, and the cause of death doesn't include all of them.

So, yeah, actually the very first one on the very first page, sir. You see all the tox results there?

A. I do.

Q. And again, with the understanding that I know you didn't make the call as to cause of death and you probably don't know a lot about this specific case without looking at it, my question is more general, right, which is you see that -- for example, look at oxycodone, right? It's listed.

A. You know, you'd have to ask the doc. Typically what they would rule on something like that is acute mixed-drug toxicity. Why he singled out meth and Fentanyl, you'd have to ask them.

Q. Fair. But is there a -- from a toxicological perspective, is there any reference, including the ones that you've just

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referenced, that would tell us that these levels were such that they were in a toxic level and perhaps some of the others weren't?

A. Every one of those is in a toxic, potentially lethal level.

MS. KEARSE: For the record, are you talking about 55236?

MR. CHEFFO: I am. I am. Yes, thank you.

Q. Okay. And then, while you have that in front of you, sir, would you be good enough to look at page 7 of 46?

A. I'm sorry. Page 7?

Q. Yes, sir. I'm going to direct your attention to the top of the page, which is 55356.

A. Okay.

Q. Now, in this case, there's a tox result, "Methamphetamine present." Do you see that?

A. I do.

Q. And that presumably would have been something that would have been done in your lab, right? You could have done it at that time?

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A. If I had a urine sample, that's certainly one of the drugs I do.

Q. And then the cause of death is non-traumatic intercerebral hemorrhage, a stroke. Do you see that?

A. I do.

Q. It doesn't reference anything about drug abuse or any- -- or anything about metham- -- methamphetamine?

A. You know, I'm not exactly sure where they put that. That may be under a "Comment" field. We may not -- you know, without seeing the entire autopsy report, it's hard to say what he would have referenced.

Q. And I guess the question -- and if you know. This may be outside your area. But it's labeled here as an accidental drug overdose, right? I'm looking at the last -- the first two columns. It says -- do you see that "Manner" and then "Type"?

A. Yeah.

Q. Do you know whether -- whether there's a policy or procedure that even if somebody has something like a stroke and they have a positive methamphetamine, like in this

case, tox screening, that it's labeled as a drug overdose?
A. I have no idea.
Q. That's not something that you deal with?
A. No.
Q. Do you conduct any type of queries of a database yourself, or do you ask other folks to do that for you if you need it?
A. I ask other folks.
Q. Do you --
A. I don't do it.
Q. Do you have access to a database or a computer that has this information if you wanted it?
A. I -- I do. I've never went in there. I have my own databases that I use.
Q. Are you aware of any databases that have -- or any formats that have more information? Like, so in other words, if I wanted to find out blood and urine for everyone, could I query the database to do that?
A. You know, I'm not sure.
Q. Okay.

A. I would assume you should be able to.
Q. Do you know --
MS. KEARSE: And I'm just going to -- he's not going to guess.
But if you know.
Q. Are the -- are you aware of whether medical records and tox information, or can -- all information about a case is linked in some way?
A. I have no idea.
Q. That would be something for the IT folks?
A. I would imagine.
Q. Okay. You testified earlier, Mr. Perch, that some -- it sounded like some relatively significant portion of the work, at least the tox work that's done by you on behalf of the county, is also -- is done on behalf or -- or essentially contracted by other entities, like police departments?
A. I do work for other entities, and I bill them for it, yes.
Q. And again, to the extent you're the right person -- let me know if you're not, then

you'll tell me that, as you have in the past today. But in terms of setting the prices and the billing -- like, in other words, are you the person who determines, you know, if, for example, XYZ PD department wants a tox screen, it should be $50, $1,000? How does that work?
A. We set up pricing initially when we first offered our services to outside clients. And the county charter prevents us from making money on our services, so it's more of a professional courtesy, since there's really no other toxicology services locally.
So we set the prices, I thought, based -- we did a cost analysis and came up with what was a fair and reasonable price. It's a lot less than any reference lab charges. And I forget exactly what was involved in setting them up.
But then they have to be approved by the Summit County council, and then they're codified into the -- whatever government program it is. And once you set them, it's hard to change, so we pretty much stay with it. And I just remember setting them up initially when we -- years ago, and that's pretty much

where we've been.
Q. And did you do that yourself, or was that with someone like Dr. Kohler?
A. With Bob, who was our administrator at the time, but he -- the reality of it is I'm probably the one that decided on them, just because I'm so familiar with what other reference labs charge.
Q. Right. And you also had a good sense of what the assays cost, how much time --
A. Absolutely, I did.
Q. -- it took, so it made sense for you to basically say here would be a fair pass-through price; is that fair?
A. That's fair.
Q. So I take it the goal is -- is neither to lose money nor make a profit; is that generally what -- what you try to do?
A. Yeah. We try to make it reasonable. Again, we're providing a service. And I don't bill them for testimony, you know, testifying in court. I don't bill them additional fees.
Again, we're a county agency. These are local law enforcement and government

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agencies, so, you know, nobody has a lot of money, and we try to be reasonable.

Initially, the prices that we charged went to what we call a lab fund, and my goal at that time was to buy one of the $300,000 instruments with that money.

Then when the economy soured a few years back, what, seven, eight years ago, the lab fund became part of the general fund. So I gave up on that idea. But --

Q. There went the machine.

A. Yeah.

Q. In terms of the last number of years, and let's talk specifically about maybe the carfentanil and the extra external testing, has that been a driver of increased costs to the tests?

A. Oh, absolutely.

Q. Significant?

A. I think it's significant.

Q. And is that -- is it fair to say that --

Well, let me ask you this. Is carfentanil the main or only substance that you feel the need to send out to a lab, or are

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there others?

A. Oh, there's others. Carfentanil was the most significant in the last couple years. But I get -- for example, I've had a number of diphenhydramine overdoses.

Q. And what is that?

A. Benadryl. As I mentioned, you can overdose on anything. When I first started this work, I would say there was no way anybody's going to die from abusing Benadryl. I put my foot in my mouth being I'll never say that again. Because we've had a number of cases where -- you know, if you take enough of any drug, you're going to -- it's potentially lethal. And people want to kill themselves with Benadryl, they'll drink -- they'll take 200 tablets, and they will die.

So do I set up a quantitative assay for Benadryl or for diphenhydramine? No, I don't, because, again, it's fairly rare. It's much more cost effective to send out the rare overdoses that I see to a reference lab, pay my 150 bucks. It's very time consuming and labor intensive for me to set up an assay, so it's a lot cheaper just to send it out.

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Q. So other than the -- and thank you for that.

Other than the one-offs, like, you know -- I'll say Benadryl since I can't pronounce the chemical name -- is the -- is the main substance that you've been sending out in the last number of years, is it carfentanil?

A. Carfentanil was the biggie.

Q. Is there anything else that's kind of in that range?

A. Not that I -- I can think of.

Q. So --

A. That's way above and beyond anything I've ever had to deal with.

Q. Is it fair to say that with respect to heroin, you can do that all internally?

A. You've got to remember, I set up assays based on the need to do them in-house and cost savings and labor involved. So if I have enough of a particular drug, I will set it up in- -- in-house.

Q. Uh-huh.

A. Obviously, I do morphine and heroin, Fentanyl, coke, all the normal stuff that I typically -- oxycodone, hydrocodone,

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oxymorphone. Not only do I set them up in-house, I also perform -- those are drugs involved in national proficiency surveys that I have to perform well on. So, yeah, those -- those assays I set up in-house.

So the esoteric drugs that I get are the ones I typically send out.

Q. You mentioned $150. Is that -- is that what a carfentanil test typically costs?

A. That's my price. That's a discounted price, yes.

Q. And I -- I take it this year, as we've talked about, as the incidents of carfentanil has gone down, the cost to the medical examiner for external -- external testing has also gone down.

MS. KEARSE: Object to form.

A. It has. It has for reference labs. Now, they did buy me a new mass spec, which was a $100,000 piece of instrument -- piece of equipment. And again, the reason being over the last two or three years, my equipment was non-stop in use. I mean, there were times when I would -- I had -- I had three mass specs. One was actually way too old, I rarely used.

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But basically two functioning mass specs.
And at times in the evening before I went home from work, I would set up the auto samplers and they would run overnight. I was getting quite a few as- -- you know, our volume, not just for carfentanil, but just the whole caseload, the problem is when you triple the amount of deaths and your caseload goes up, it's not just the carfentanil assay goes up. It's all the aspects of doing that standard drug screen that go up with it.
So I've got three times as many immunoassay runs, alcohols, the whole gamut of stuff.
Q. Is it your experience that when you find overdoses, that as a general matter people also are abusing alcohol? When you find drug overdoses.
MS. KEARSE: Object to form.
A. I didn't see any special trend related to alcohol and drugs. Alcohol is alcohol. Everybody is abusing alcohol whether you do drugs or not.
Q. And from your perspective, is it -- is it -- well, let me just ask you this. When

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you are doing your tox study based on kind of your visibility into a limited amount of this person's existence, you can't really determine whether they're an abuser or whether it was a one-time event; is that right?
MS. KEARSE: Object to form.
A. Not by itself. Not just by the analysis. As I said, I do look at the investigator's report. They interview family members, neighbors. There's a lot of information on that report.
Q. Sure. And that's -- that's a fair point. But -- and let's talk about that.
So just looking at bare toxicology records, you couldn't determine whether someone was an abuser or what brand of drug they took, if it was prescription or things like that, right?
A. Not -- in most cases, no.
Q. But to the extent that you wanted to find out some more information, that's why people like the investigators go out, that's why they talk to family members, that's why they look at medical records, right? That's why they may interview employers, things like

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that?
A. Correct.
Q. And that -- that's important. If you want to understand the full story, you have to put all those pieces together.
A. In my --
MS. KEARSE: Object to form.
A. In my opinion, yeah. Those are important pieces of the puzzle, yes.
Q. And there's probably others, depending on the facts of the case.
A. There's -- obviously, the autopsy is an important facet of that.
Q. How much communication, to the extent you know, is there between let's take the Summit County Police Department or other law enforcement in Summit County and the ME? And I'm maybe going to ask you to focus on the fact, right, there was this two- or three-week period or weekend, it sounds like maybe, where the Fentanyl problem, serious problem, started in, it sounds like, 4th of July 2016, you know, continued for some period of time, but then it trailed off.
I mean, is that because of a

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communication between the ME's office testing and some kind of interaction, in your view, with the police department?
MS. KEARSE: I'll object to the form.
But go ahead. Go ahead.
Q. Do you understand my question, sir?
A. Yeah, I do. Remember, I'm the police department too.
Q. Right.
A. So I was -- I was in a unique situation that Cleveland, Columbus, Cincinnati, they weren't. They weren't in that unique situation.
It's a lot easier to test contraband. It's very easy to test contra- -- contraband, meaning the powders and the residue. It's so concentrated. And mass specs are very, very sensitive. As I mentioned, one nanogram per ml is such a -- such a low level.
Residue that you don't even see on a spoon, you just take a little bit of methanol to just -- to brush the spoon and inject that on the mass spec, it will blow your instrument away there's so much there.

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So the point being, I'm at Akron Police Department. I see what we're seeing there on a weekly basis. My partner, his name is Mike. I don't know if that's relevant. But anyway, him and I communicate well. Again, we both work together there. Now, granted, I may not go in there for a couple weekends, but initially we were getting swamped over there.

So, yes, I was seeing all kinds of paraphernalia, and the bulk of it was carfentanil. So I go back to my lab at the ME's office, obviously I'm -- I -- I would coordinate the cases of -- of the contraband with the ME's office, and numerous times the dead person was -- was the paraphernalia they had at the Akron Police Department.

So right off the bat, I -- you know, carfentanil, carfentanil. I can correlate that, the paraphernalia with my case. So that was a big plus.

The people in Cuyahoga County and Franklin County and Hamilton, they didn't have that opportunity. They -- they were independent laboratories, and much bigger laboratories.

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Even Cleveland, they didn't have that opportunity. As a matter of fact, I would call Cleveland -- I knew everybody up there -- and talk to their tox department and say, "Are you guys seeing any carfentanil? How about in the drug lab?" You know.

He says "Oh, they're way behind. They're a month behind. They haven't even analyzed any of that stuff yet."

So there was a tremendous time gap between some of the bigger laboratories of what they were seeing in their drug lab versus what they were seeing in a tox. And again, that's one of the reasons, I think, that we were the first to see the carfentanil issues.

Q. Is that -- in your professional kind of view, is that an area of just from a public health/public service perspective, there could be areas of provement -- improvement of having better communication between the different municipalities and the labs?

MS. KEARSE: Object to form.

A. You know, I don't know if it's just a matter of communication. I think it's a matter of personnel and money and all the other

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aspects of it. You know, the reason they're behind, at least if you ask them, in one area, is because they don't have enough equipment, they don't have enough people, they don't have whatever. And it's a much bigger municipality. You know, Columbus and Cleveland are a lot bigger than Akron.

A lot of the law depart- -- a lot of the -- there's a state crime lab known as BCI. There's three laboratories throughout Ohio. And probably -- I don't know what percentage of law enforcement, but the bulk of the law enforcement sends their stuff to the BCI labs, their paraphernalia. The contraband found at a scene or the arrest made and the powder that they find on the individual, all that stuff goes to BCI.

And BCI is -- was -- at least for a long period of time, they were months behind. On testing stuff that came in today, they might not get to it for a couple months. So there's that lag. And -- and I -- and I think the reason they were giving is just because the volume was so -- so high, they just couldn't keep up.

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Q. And -- and to the extent, again, that you've seen it through kind of your dual experience, both with the Summit County medical examiner and with the police department, do -- do you have a view or do you believe that some of the drop-off this year that you've seen in, let's say, carfentanil, for example, has been because, you know, with the knowledge from the medical examiner's office, the knowledge of the police department, law enforcement has kind of targeted or made efforts to eradicate some of the -- the activity with respect to carfentanil?

MS. KEARSE: Object to form.

A. Oh, I think that's a big factor. The other factor is probably more of a political nature. I think it's all coming from China, and it's just -- and whatever happened, the Chinese cracked down on it.

Part of my role at the police department is I would see these packages that were shipped overseas, FedEx, U.S. mail, with all kinds of Chinese caricatures. I'm assuming they were Chinese. They could be any oriental -- you know, the little alphabet.

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I'm not a Chinese ex- --
Q. I understand.
A. But, you know, so my impression is this stuff is all being shipped from overseas.
Q. So that was -- that was the type of thing you were testing, right, because that was the --
A. Correct.
Q. -- contraband.
A. Yes.
Q. And it was -- it looked to you like it was coming in from overseas?
A. Overseas. Some of it had -- actually, a lot of it was from -- with British postmarks. I don't know if the -- I don't know why.
But it was all -- bulk of it was overseas. And we would test it, again, for sentencing purposes and whatever. It was all carfentanil. It was a humongous amount of carfentanil.
Q. And -- and is that -- is -- did, you know, is that your conclusion that a lot of the street drugs are coming in from Mexico and England and -- and China or Asia?

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MS. KEARSE: Object to form.
A. At that time. At that time, yes. Now I have no idea.
Again, I don't -- since -- things are changed this year in terms of what I'm seeing. So now, since I'm seeing meth and coke and regular Fentanyl and what I read in the paper about what kind of -- I think possibly the Fentanyl is probably coming in from Mexico, and this is strictly guesswork.
MS. KEARSE: And I'm just going to say, we just -- I want to -- we're not going to guess today, so I think --
THE WITNESS: Yeah.
MS. KEARSE: -- that Counsel will appreciate that as well. We -- this is for what you know as a fact witness.
Q. You have an educated view. This is what you do every day of your life, right? I mean, it's not really guessing.
A. It is guessing.
Q. Okay.
A. I have no idea -- where it's actually coming from. It could be down the street from us. But, again, I suspect that the

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meth and the coke is probably much more -- are probably more local, at least the meth. But I don't know exactly where it's coming from, no.
Q. Is there a -- again, in kind of your dual role, to the extent that you know, to the extent that there -- let me -- let me strike that.
Let's take meth increase currently, you know, that you've seen. Is that something that in some way, either formally or informally, gets filtered to the police department?
In other words, "Hey, you know, I'm seeing a lot of folks in the ME's department that are now overdosing on meth. Is it something about this meth? Is it more prevalent?" Is that something that you or someone else would tell the police department so that they could determine if it's something that they want to try to address?
MS. KEARSE: Object to form.
Q. Do you understand my question?
A. Yeah.
Not really. I think they know as much as we do what's around. I mean, they

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confiscate the stuff, and we just -- I don't -- I don't even bother looking at the APD stuff anymore because it's all basic stuff again. You know, Fentanyl.
The reason I was more in tune during the carfentanil issue is because of my limits in -- in technology, my technological limits in testing for it.
Q. I see, okay. Let me show you -- this is the article I think I mentioned earlier that you at least were one of the folks who worked on it.
MR. CHEFFO: I'm sorry. We need to mark it. My apologies.
- - - - -
(Thereupon, Deposition Exhibit 2, Article Titled "Carfentanil and Current Opioid Trends in Summit County, Ohio" was marked for purposes of identification.)
- - - - -
Q. I don't think I'm going to test your memory on super-specific details about this, Mr. Perch, but you could look at it if you like. And, obviously, if there's anything

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that I do ask that you don't remember and you need to look at it, I'm certainly not going to stop you. In fact, I'd encourage you. But maybe we can just start general, and if you need to look at it in more specifics, you will.

Can you just tell us, just generally, kind of what the purpose of this was and why it came to be and what your role was?

A. My role was very minimal. Kristy was one of our pathology -- or one of our residents from City Hospital. They do a rotation through our facility. I think it's a six-week rotation.

And I think she was -- she was interested in being a -- I think she was in pathology. And I don't -- you know, she approached me. She wanted to do some data research. And my role was I allowed her access to all my files. That was my role.

She wanted to go back and look at all the cases and wanted to know how -- what the easiest way was, and basically I said, you know, the easiest way is to actually look through each individual file, log down what you see. You know, if you're interested in how

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many this, how many that, start writing them down.

And she did that for weeks, would go in -- all my files are stored in boxes with the dates and case numbers, range on there. So she -- and most of my results are on the -- and it's in a manila folder, and I write the stuff out. On the cover of that manila folder is all my data. Again, that's strictly for me.

Q. And can I just stop you for a minute? Thank you for that.

Was she focused, to your knowledge, only on data that related to overdose deaths, or, in this case, carfentanil deaths?

A. I --

Q. Do you know?

A. I really don't know.

Q. Okay. And when you say all of your -- your data is organized -- well, let me -- let me strike that.

Is all of the work that the ME's department does, is it only related to deaths? Like, in other words, would you -- would you do a tox screen for a police department in the ME's office that was just in connection with an

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arrest to find out if -- if some paraphernalia or some --

A. Yeah.

Q. -- somebody was positive?

A. I do quite a bit of that. As I mentioned, I do a lot of contract work for law enforcement agencies.

Q. And that's not just in connection with looking at the decedent; that could be for other testing; is that right?

A. DUIs, whatever.

Q. Okay. So was she focused only on deaths; do you know?

A. You know, I'm not sure.

Q. Okay. But whatever she was focused, you -- you have materials in a way that she was able to essentially roll up her sleeves --

A. Yeah.

Q. -- and go look at it, right?

A. I told her, you know, I -- the best I can do is allow you access to my information. I can't help you, because I'm -- I'm a one-man show and I have tons of work to do.

Q. And she was able to go through

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and -- did she do this by herself; do you know?

A. I'm not even -- I'm not sure. She may have had one of the students help her. They have a variety of students that come through there.

Q. Okay. I mean, she didn't bring an army of people in, right?

A. No.

Q. And so it was either her and maybe one other person or maybe even two -- two helpers?

MS. KEARSE: Object to form.

A. Again, I don't know.

Q. Okay. And she went through the materials in a way that you had previously organized, right?

A. I'm assuming. I know she went through my boxes. You know, that was her -- she wants to write an article, more power to her. I really didn't care about -- too much about it. I'm surprised she even put my name on it.

Q. And I -- and I -- like I said, I'm not going to -- as I think you'll find, I'm not going to ask you specific questions about

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this --
A. No, please.
Q. -- because I think you've told me that this is not your area of expertise.
A. This is -- no. You know, I proofed it to make sure it sounded reasonable. And I'm not sure how -- I remember proofing it. I made some corrections that were technical corrections, and I didn't really pay much attention to the data. I really didn't.
Q. Okay. I mean, look, it's fair to say if you saw something that was glaringly wrong, you would have pointed it out, right?
A. I hope.
Q. Right. But you didn't look at this as -- the sum and substance of this as something that was your job to kind of edit or correct, right?
A. I -- I helped to the best of my ability.
Q. Okay. And I'm going to ask you just some -- just a few process questions. Not -- just about how kind of what this -- this woman, Ms. Kristy Waite, was -- was -- had access to.

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So there were files that were kind of under your control that she was able to look at and mine for whatever information she thought was appropriate; is that right?
A. Sounds about right.
Q. And do you know how long she took? Was it a few weeks?
A. Quite a while, it seemed like. Certainly weeks and weeks. Possibly -- probably more like months.
Q. And she -- she took data and information or whatever she thought she needed to prepare this -- this paper, right?
A. I'm assuming.
Q. And --
MS. KEARSE: Again, I'm just going to say, you know, the guessing. Just what you know.
MR. CHEFFO: Okay.
Q. Look at page, if you would -- I think it's the fourth page, Mr. Perch. It says here page 636 on it. It's got these bar charts. Do you see this one?
A. Yeah. Oh, yeah.
Q. So, I mean, this data is -- you

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know, is relatively specific, would you agree?
A. It's specific for the drugs that she's interested in, yes.
Q. Right. And -- and I take it that you can't independently verify whether these are correct or not, right?
A. Well, she probably took them -- well, I'm assuming she -- I cannot.
Q. Okay. But -- but at least in looking at this chart, there's a -- there's a fair level of specificity from 2009 to 2016 that talks about the number of cases where illicit drugs were involved in a death.
MS. KEARSE: Object to form.
Q. Isn't that what this chart essentially does?
A. Overdose cases per year by drug, yes.
Q. And in looking at this, are these trends or numbers, are they consistent with your recollection?
A. I'm going to say yes. Pretty close.
Q. All right. For example, look at 2015, right? There's -- you don't even have

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anything for carfentanil, right?
A. Yes.
Q. And then it's the last one on the right. There's two red, so it's a little confusing. But you see all the way over on the right?
A. Right.
Q. Right. Then 2016 you see carfentanil is almost twice everything else.
A. Correct.
Q. Right? And then you see heroin is -- there's a -- kind of a jump from 2009 to '10, and then '10 to '12 with a dip in '11. But it's -- it's relatively consistent that there are heroin deaths from 2009 to 2016, right?
A. Well, I -- I would have to say that it doubled from 2009 to 2016.
Q. Okay. And it -- and it dropped in 2011, and -- but it -- okay. And, fair. And so it doubled.
There's -- and methamphetamines, how would you characterize that?
A. Big increase in 2016.
Q. And that's consistent with your

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recollection, right?
A. Yes.
Q. And cocaine?
A. 2016 was a big year, wasn't it?
Q. It was. But prior to that, there was a -- is it fair to say relatively consistent with some ups and downs?
A. Right.
Q. Doesn't include hydrocodone or oxycodone on this; is that right?
A. I don't see it, no.
Q. And then if you look at 638, which is another -- this is a pie chart.
My understanding of this -- and you tell me if it's -- if you could either tell me I'm right or wrong or I need to look at it -- is that Figure 3 shows the percentage of cases where it's carfentanil only, and then the breakdown of other drugs or substances that were found in addition to carfentanil?
A. That would be my understanding as well.
Q. So if we were going to report out the Summit County deaths --
Do you know if the data on -- I'm

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going to ask you to turn back to Figure 1. Is that data only for Summit County?
A. I don't know.
Q. Okay.
A. I would imagine it says somewhere in this report.
Q. I think -- and I'm -- it's not a trick question. I was looking as well, Mr. Perch. I think right above that, it says -- I'm in this -- right over here, sir. From July 2016 through --
A. Oh, in Summit County. I see it.
Q. Right. Right. It talks about -- and then it says 140 carfentanil-related deaths, and that's consistent with the chart, right?
A. Yes.
Q. So if we wanted to kind of accurately portray the most prevalent deaths from drugs in Summit County, we would include heroin, methamphetamine, cocaine, carfentanil, and Fentanyl?
MS. KEARSE: Object to form.
A. Based on this article, yes.
Q. And do -- do you have any reason to

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believe that this is inaccurate?
A. No, but it's not all-inclusive either. Again, she took five drugs, and why those five drugs -- I'm assuming because, again, I really don't know why she picked those five drugs, but they're -- as you mentioned, there's some other drugs that she omitted, and I'd be curious to see what those levels were.
Q. Do you know if any other drugs would be higher than methamphetamines?
A. I wouldn't know.
Q. Okay. Let's come back to that in a minute. But let me show you another document.
THE VIDEOGRAPHER: Can I change the tape before we continue on?
MR. CHEFFO: Sure.
THE VIDEOGRAPHER: Thank you.
MR. CHEFFO: He's going to change the tape.
THE VIDEOGRAPHER: We're off the record.
(A recess was taken.)
- - - - -
(Thereupon, Deposition Exhibit 3, Document Titled "Annual Report, With

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Five Year Statistical Trend, 2016," SUMMIT_000022367 to 000022438, was marked for purposes of identification.)
- - - - -
THE VIDEOGRAPHER: We're back on the record, 11:05.
BY MR. CHEFFO:
Q. So I'm going to ask you a question or two, maybe more than two, about the annual report. But before we leave the paper, let me just ask you a few questions, and as you have, you'll tell me if you remember, if it's in your area of expertise, or if you don't. And I agree, we don't want you to guess, okay?
So let's just look at the "Conclusion," which is on the last page. I'm going to read it. Tell me if this is generally -- if you agree with this. It says, "Multiple state and countywide initiatives have been implemented to combat this dangerous epidemic. The need for up-to-date and highly sensitive testing is crucial for the direct detection of drugs, which are lethal at low concentrations, such as carfentanil and other

Fentanyl analogues. States without centralized medical examiner systems are less likely to be able to identify the specific drug involved in an overdose than states with a centralized system.

"Synthetic illicit opioids produced in chemistry laboratories have become a recurrent aspect of the heroin supply. They are easy to produce and cheap for users to obtain, but have created an urgent need for updated sensitive technology methods for treatment centers, criminal justice labs, and especially medical examiner's offices."

Do you agree with that?

A. For the most part, yes.

Q. Anything you take issue with?

A. The -- and I'm a proponent of centralized medical examiner's systems. I'm not exactly sure how -- other than the -- the communication issues, that they'd be less likely to be able to identify the specific -- I guess I do agree with that.

Q. Does -- is Summit County's system, medical examiner's office, would that be considered a centralized medical examiner

system?

A. I got the impression that she was talking about the state level.

Q. Do you know if Ohio has it at the state level?

A. No, they do not.

Q. And the last thing I think I want to ask you, if you would be good enough to turn to 634. It's -- I'm going to read it again so you don't have to. It's the second paragraph in the "Methods" section. Tell me if I read this correctly.

It says, "The SCMEO utilizes two urine-based immunoassays for routine screening tests, one for drugs of abuse and the other for Fentanyl and its analogues. A Fentanyl screen was not part of routine testing prior to June 2014, when the nation was experiencing an opioid epidemic, mostly due to heroin and illicit Fentanyl. Quantification and confirmation of all positive drug screens are performed by GC/MS."

Do you see that?

A. I do.

Q. Did I read it correctly, and do you

agree with it?

MS. KEARSE: Object to form.

Q. Well, let me ask you since, there was an objection. I have to ask you, now, two questions.

Did I read it correctly?

A. You did.

Q. Do you agree with it?

A. I'm not exactly sure where she got the 2014 date. I was screening Fentanyl quite a bit sooner than that, prior to that.

Q. Okay. So other than that -- we'll talk about that in a little bit, but anything else in that paragraph that you would modify?

A. You know, she's making conclusions, so I'm assuming -- I'm going to have to assume that her conclusions are correct. But, yeah, I generally agree with that.

Q. And she does say -- and I don't know if this changes your -- your testimony or not, but it says "a Fentanyl screen was not part of routine testing."

Were you doing routine testing prior to June 2014 for Fentanyl?

A. Oh, the "routine" does make a

difference. I -- I was probably screening for Fentanyl in tox cases that I deemed necessary to screen. In other words, a 93-year-old, I doubt if I'm going to screen them for Fentanyl. It was a much more expensive assay, and it was on my second wheel of reagents, so I would actually literally have to switch the instrument over. So that makes sense.

Q. And now it's --

A. Now it's a part of the routine screening.

Q. It would probably be harder to not do it than it would be to do it, right?

A. Exactly.

Q. And then -- so I'm now going to direct your attention to this annual report. It's the big document, 2016.

Have you -- are you generally familiar -- again, I'm not going to ask you any detailed questions about this because I -- my guess is you're going to tell me you don't prepare this report; is that right?

A. I do not.

Q. Okay. But you're generally familiar that the medical examiners --

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MR. CHEFFO: I gave them one already.
Q. -- does produce an annual report?
A. I am familiar that they do, yes.
Q. So do you flip through or kind of review, in some fashion, the annual report when it comes out or when it goes around?
A. Maybe the very first time. I don't think I've looked at one of these in years.
Q. Okay. As to this 2016 one, did you look at it with any purpose of editing or providing comments?
A. What I typically do is I give them my numbers. He asked me for my total drug screens for the year from in-house cases and outside agencies, meaning forensic cases, and I give him those numbers, and that's pretty much the extent of my input into this.
Q. So -- and when you say "those numbers," there's probably, you know, several data points, right? In other words, how many you've done --
A. Correct.
Q. -- right? What -- what drugs you've found, right, with some prevalence?

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A. Right, yes.
Q. What drugs you've found in tox screenings, which ones are most likely related to cause of death?
A. No, no. I -- he pulls all that up. I'm not sure how he pulls all that up, but he does a query on -- on -- on the computer. He pulls all that -- that kind of data up. I just give him total numbers.
Q. And I'm sorry. Total numbers of -- of what?
A. Cases.
Q. Cases.
A. Summit County cases. Let's say 600. I write a report for each case, whether it's Summit County or outside clients. All those are on my database, the actual cases. So I just go in my computer on my database where I write the reports and tell them how many reports I wrote for Summit County. So if I write 600 reports, I did 600 cases.
Q. Okay.
A. Then I also go to my second database, which is outside clients, the forensic cases that we call police departments,

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other coroners' offices that we bill for, and I do the same thing. I just see how many reports I wrote.
Q. And if -- if someone wanted to find out -- and let's talk about the -- whatever number of cases it was just for Summit County, after you've identified those specific cases, 1 through 600, 200, whatever the number is, if I wanted to know how many of those cases involved methamphetamine, for example, would I be able to do that through some type of search?
A. Yes.
Q. It's not paper, right? It's on a computer system?
A. It's on -- after I generate a hard-copy report, I give my reports to the secretary, who notarizes that report and also enters all that data into the medical examiner's computer system, which Pat has. Pat Gillespie has had the control over that, so he would be the individual that would pull up the specific search request.
Q. Okay. And that's -- that's helpful. So let -- let me just take even a step back in some of the documents.

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So is your report, is it basically just the numeric findings or -- or lack of findings, or do you actually have any narrative discussion?
A. My -- my report is strictly a Word document. Drug screen, you've got a copy of it. I just tell you what I found.
Q. And then, is that information then reentered into the system or --
A. Yes, into the main system. My -- my data and my report is originally in my database on an individual computer in my lab, because I'm not interfaced with the rest of the office.
Q. Who else has access to that? Just you?
A. Just me.
Q. And were you asked by the lawyers to collect any of that information? Do you know?
A. No.
Q. And if they asked you, you could have made it available?
A. It's the same information that's on the medical examiner's system.

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Q. I thought -- I thought it got -- some portion of it got input into the --
A. All of it gets input into the ME's office system.
Q. It has to be manually re-input?
A. Yes. That's why we're getting a new system.
Q. And how do you do quality control?
A. Quality control in terms of what goes into the -- from one system into the other?
Q. Yeah. I mean, some of these are -- you know, right, it's, you know, amphetamine, 125mg/ng ml, so someone has to take that entire tox screen that you do and then re-input the same information into another system?
A. Correct.
Q. Do you know if someone does a quality control to make sure --
A. How do you know there's not a typo, that kind of stuff?
Q. Yes, sir.
A. Well, in theory, the -- we have the hard copy. That's my copy. And when Dr. Kohler or Dr. Sterbenz signs this stuff

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out, they look -- they're on the computer, and they're comparing my copy with the actual copy that's notarized with the -- the information in the computer system.
Q. I see. So when they actually do their work, they have a copy --
A. They have a -- they have the entire file, yes, including -- you know, that's why it takes so long to sign out an autopsy -- one of the reasons it takes so long is they review all their files, all their -- the posts. They have all their notes, they have my copy of the tox. They have a lot of information there.
Q. Is there anything in your system that's not given in to the tox -- I'm sorry -- in to the folks who are doing the autopsies?
A. Not in the sys- -- not in the computer. All I have in my computer is just a report. It's a Word document. There's a lot of information in my file, in the manila folder, that does not go anywhere.
Q. And no one's collected that?
A. There's thousands and thousands of cases for multiple years. No, it's all sitting --

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Q. Right, right.
A. -- in various storage facilities.
Q. If someone said, "Mr. Perch, we'd like it," you'd say, "Have at it," right?
A. I get requests all the time from attorneys.
Q. From -- from outside attorneys, right?
A. From outside attorneys that want to see everything I've done on a particular case that they're going after. And I make copies of everything and --
Q. And you send it out?
A. I send it out.
Q. And that hasn't been done in this case, to your knowledge?
MS. KEARSE: Object to form.
A. As far as I know, no. But you have to be very specific on a particular case, obviously.
Q. Understood. And so if you would be good enough to turn back to that annual report, and I'm going to ask you to look at page 18. It may help you to actually look at the two pages before that just so you kind of orient

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yourself as to what section I'm talking about.
A. Okay.
Q. Am I correct that -- that this is a -- an annual report that's done by the medical examiner's office and it's posted on the website, and it's an outward-facing report for people in the community and others to rely on?
MS. KEARSE: Object to form.
And, Counsel, just for the record, it's not on the website. Just --
MR. CHEFFO: None of these are posted on the website?
MS. KEARSE: This? No.
MR. CHEFFO: This 2015?
MS. KEARSE: Yes.
MR. CHEFFO: Okay. So --
A. That, I don't -- I don't even know.
Q. Okay.
A. I don't look at our website.
Q. I'll stand corrected.
It's -- are these annual reports, in your experience, are they something that is -- are typically made available to the public?

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A. As far as I know.
Q. Do you have any reason why the 2016 report would not be available to citizens?
A. I have no idea.
Q. And --
MS. KEARSE: Object to form.
Q. -- do you have any --
MR. CHEFFO: Okay. So are they available to citizens or not?
MS. KEARSE: No, and I'm just saying that you made a statement it was on the website. I -- we looked at the website. I did not see it on the website.
MR. CHEFFO: Yeah. And I corrected it, and I asked him --
MS. KEARSE: I'm not saying it's not available to citizens, but -- so that just did not -- so --
Q. Do you know if this was available to citizens or not?
A. Put it this way. We have a huge box full of these things. Whenever I have a tour or a student come in that's a -- you know, that -- you know, I do mentorships, all kinds of stuff. I always give them a nice copy of

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this because it's impressive for their little thing to go back to school with.
Q. Right.
A. You know, so there's no restrictions on me handing them out.
Q. There's no -- there's nothing super-confidential about this, right?
A. Not that I'm aware of.
Q. So in this -- and again, right, we're talking about 2016, just to orient you. And in the "Toxicology" section. Then I'm going to just ask you, if you would, to look at page 18.
A. Okay.
Q. I think, from what you've told me, is that you don't personally categorize or quantify any of the data in Charts 20 and 21; is that right?
A. Do I make these charts up?
Q. Yes, sir. Better question.
A. I do not.
Q. Thank you. Is it something that you -- you're asked to participant in, other than what you explained to me earlier, which is that you just send a list of your cases?

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A. No.
Q. And you remember we talked about, in connection with your paper, that there were some other drugs that were commonly found that weren't listed amongst the five, right?
A. Right.
Q. And those would include citalopram. And I'm looking at 20.
A. Yes.
Q. And that's -- is that typically used in connection with suicides?
A. No.
Q. Okay. But it's -- it's common -- and this is -- 20 is commonly found drugs that were not necessarily the cause of death but were found in a routine drug screen.
A. You know, again, Pat did these. He -- I take that back. I would -- I would -- got involved occasionally when he would ask me a question. And usually this -- it was the same question every year. It was the heroin/morphine question. How do you know it's heroin? And I would tell him you have to look both at the blood and the urine and to -- to connect the two to see if it's from heroin.

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It was always a matter of a technical nature in terms of how do I know how many heroin deaths? Or why he put citalopram, it's a very common if not the most common antidepressant out there, so I routinely see it. And it's -- and if these are deaths, it doesn't surprise me that it's part of the profile of the -- of the individuals. Another one that's very common is alprazolam, Xanax. I'm surprised that's not in there.
Q. But -- but, you know, hydrocodone is, right?
A. Correct.
Q. Methadone is?
A. Correct.
Q. Oxycodone is?
A. (Witness nodding head.)
Q. But are you surprised that methamphetamines are not in here?
A. Yes.
Q. And particularly, right, when we look at the chart and the work that your coauthor did -- if I can find it -- right, when we have, for the last number of years, including 2016, it looks like, according to

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this, that there was about 60 deaths related to methamphetamines.
A. I don't know how he pulls up this data. I really don't. And I rarely pay -- you know, I don't pay attention to that stuff.
Q. Okay. And 21 talks about -- it reflects the number of most commonly found drugs that were determined to be the cause of death.
A. 21?
Q. I'm sorry, sir. Figure 21, but on the same page.
A. Oh. What was your question again?
Q. Absolutely. 21, and I just read what it says here. It reflects the number of most commonly found drugs that were determined to be the cause of death, right?
A. That's what it says.
Q. And at least if we were to compare the data in the article that you were a coauthor -- and I think you have in front of you, but I'm doing some -- kind of a --
A. Yes, I see they have methamphetamine in there.
Q. And it has about 60?

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A. Correct.
Q. And yet someone decided that they were going put 5 for citalopram, right?
MS. KEARSE: Object to form.
A. I have no idea why methamphetamine is not there.
Q. Two for hydrocodone, right? All right. And then eight for methadone.
So methamphetamine actually should be right next to or very close to morphine, right? In terms of if you were going to put a bar for methamphetamine and have 60, it would be pretty close to the morphine bar, right?
MS. KEARSE: Object to form.
If you know.
A. Well, at the very least, the methamphetamine should have been on the top graph. You know, it should have been there somewhere.
Q. Are you aware, either formally or informally, whether something like that wouldn't be put in because somebody was concerned about a stigma that some people might think that there was meth use in --
A. No.

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Q. -- the county?
A. Somebody screwed up.
Q. That's one explan- -- explanation too.
Would you expect to have seen it in prior years if, in fact, it was at the levels?
A. Here's the problem with some of these searches. At least I'm prone to do this. I create a search year one. If I screwed that original search up, that template, chances are year two I pull up the same template, the same search and I just put in the new time frame. So whatever the mistake was made initially is going to be made the second time around and the third time around.
And that's, again, I'm sorry, but I'm guessing, because I haven't seen the 15 or the 14 or any other of the other ones.
MS. KEARSE: And I was going to say, again, we're not guessing.
THE WITNESS: Right.
A. So again, I am guessing, because it should be there. I would think that it should be there, obviously, based on -- so somebody's data is wrong.

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Q. I mean, just based on your just general -- and obviously I'm not asking you to remember the number of cases -- but in 2016, it's consistent with your recollection that it was something --
A. It should be there.
Q. -- close to the 60, right?
A. At the very least in the top graph, drugs most commonly found that were not necessarily the cause of death, but certainly should be there.
Now, as far as the actual cause of death, I'd have to look into each individual case.
Q. Right. And again, I'm not going to take up a lot of your time with this, Mr. Perch, but we -- this is -- this is actually the 2016 data, that -- that chart that you have in front of you.
A. Okay.
Q. Right? And we could look at the cause of death.
A. Okay.
Q. And I'll just -- I mean, like the first one, right, says "Combined

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methamphetamine." You know, 1 -- 1/5/2006 says, "Combined Fentanyl/methamphetamine toxicity."

A. I agreed with you. It should be there.

Q. Yeah. Yeah, I mean, my -- in my recollection is that there was dozens, if not more, that were classified.

A. Again, I don't know how he pulls these searches up. Does he have to put each individual drug in there and did he just not put in methamphetamine for whatever reason? I don't -- I really don't know.

Q. I take it you would agree with me that to the extent that it was an inadvertent error, that, you know, particularly when you're working with important information and data like this, it should be corrected if it was a mistake?

A. Well --

MS. KEARSE: Object to form.

A. -- I -- I would think so, but, you know, that's not my area.

Q. Let me ask you just generally -- I know this is not your specific, but, you know,

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you have been there a long time -- in terms of how data is kind of stored and managed, you know, for the -- and I'm talking about the ME's office. So you've told us a little bit about you have a system that has kind of Word versions, right, of tox reports, right?

A. Correct.

Q. And then you also have some paper files, I take it, that are either intended to do that or maybe were historic files?

A. If you're talking about my manila folders --

Q. Yes, sir.

A. -- that's where I store all the hard copy of all my analysis. And this is what the attorneys want. They want to review how I did the analysis, the screening, the GC-MS, the alcohol levels, the quality control that I run with each assay. So, yes, that's important data.

Q. Okay. And then there's a centralized computer system or database, I guess, that Mr. Gillespie developed?

A. Correct.

Q. And generally, what -- kind of what

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was the function of that? What does it do?

You know, to -- I know you're not a computer expert, but what do you -- what do you generally think that was for?

A. The investigators put in the investigation report in there. They actually typed -- they have their own template that they type in all the investigative information. The doctors put in their autopsy information in there.

And obviously the toxicologist does not put in his information directly, but one of the secretaries does. And the reason -- there are several reasons for that. Number one, I -- I have to put in that data in a formal report that I have to generate a hard copy. And the format that Gillespie's computer system uses does not generate the report I need.

So I generate a hard cop- -- that's the official document, the official tox report. When somebody requests an official tox report, it's my report that I generate on a Word file. That also goes into the autopsy file.

What's in the computer is basically the same data. It's just a different format.

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So if you ever want to look up how much oxycodone John Smith had, you put in the case number and you pull it up on the computer and that's all you see. But it's kind of an incomplete picture, so to speak, as we -- as we went through this.

Q. How -- how would you -- if you were -- you talked about, from time to time you testify.

A. I do.

Q. And I take it before you testify in a -- in a case, you want to prepare yourself for that testimony?

A. Well, yeah. I pull up the case and review all the data, yes.

Q. All right. So when you say you pull up the case and review all the data, what's available to you in terms of the data when you're preparing to testify in connection with what's in the computer system?

A. I'm not sure what's in the computer system. I don't look at it.

Q. Okay.

A. What's available to me is a copy of my report that I generated, all the hard-copy

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data from all the instrumentation that I use: The immunoassay screen results, the GC-MS results, the alcohol results, all that documentation.
Q. Okay. Do you -- and that's what you review because that's in your area of expertise, right?
A. That is my area, yes.
Q. To the extent that there is other information or testimony that's required about a cause of death, that would typically be the ME who would testify?
A. Yes.
Q. And this, to you, probably seems like an extremely basic question, but I'm just trying to understand how the process works a little bit.
When you actually do a testing, whether it's a -- gas spectrometer, is that what it's called?
A. GC.
Q. -- GC or some of the other kind of assays, does it kind of spit out, like, a printout of those numbers, or is it on, like, a digital screen and then you have to write it?

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A. Yes to all of the above.
Q. Depends on the test or instrument?
A. Depends on the test. For example, a GC-MS quantitative run, you get a digital -- you get a bunch of digital data. But remember, I have a program in the computer where I've generated a standard curve of known concentrations based on a response factor. So when I run my samples, it calculates the unknown or the sample based on that standard curve.
And, yes, it will print out a very nice report that I've set up to a specific way. So it generate- -- so it will tell you an actual concentration, and in units that we're comfortable with; for example, nanograms per ml. It will give you the response factors. So if a toxicologist wants to review my actual data, he's going to want the response factors. It will -- it will spit out a chromatogram, the actual chromatography. So it will give you a lot of information on those -- on those reports.
Q. And how would you come to a conclusion that someone, let's say, overdosed

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on a particular, let's say, over-the-counter product if it's not on your -- your basic drug screen?
And this may be on it, so I'll give you an example. Like aspirin, right? You may tell me that's part of your screening, so we'll pick another example, but let's assume it wasn't.
A. Okay.
Q. Right? And, you know, you run the screen, person doesn't have a gunshot wound, right, they're a younger person, and --
A. So at that point, it's undetermined.
Q. It's undetermined?
A. And I've already run the --
Q. You don't see Fentanyl. You don't see carfentanil.
A. No.
Q. You don't see cocaine. You know, no gunshot wound. I suppose, right, in this example, if they do an autopsy and they look at the stomach, they might find, you know, a bottle of pills.
But is there some way that you

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would be looking for those types of common non- -- typically non-toxic drugs or substances that actually can have a high toxicity?
A. Yes. I have a lot of extra, non-standard procedures that I can use. So once I've run the gamut of all my standard protocols, then I let it sit there for a week and let me -- while I've got other cases to work on, and I go back to it, and I may do an OARRS report. I may look -- ask the investigator to give me medical records and look through medical records. There's a lot of extra stuff I will have to do for those cases. And they may take a lot more time.
But I do have -- you know, do I want to look for heavy metals? Carbon monoxide? Ethylene glycol? Those are non-standard things that I will do.
Do I want to do them? No. But again, you have -- every once in a while you come up with a case that's -- that requires a lot of extra work.
Q. Okay. And just to...
- - - - -
(Thereupon, Deposition Exhibit 4,

Document Titled "Annual Report, With Five Year Statistical Trend, 2015," SUMMIT_000022730 to 000022802, was marked for purposes of identification.)

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Q. I think this is on the website, though your good lawyers will correct me if I'm wrong about this.

MS. KEARSE: I did see this one on there.

MR. CHEFFO: Okay. There you go. I'll -- lesson learned.

Q. You know where I'm going to ask you to look.

A. That's where I'm going. Page 18.

Q. You're good getting there. I don't even have -- you're doing my work for me here, Mr. Perch.

A. See?

MS. KEARSE: Is this Exhibit 4?

MR. CHEFFO: Yeah. Four, yeah.

Q. So basically my question is, you know, just to show you that it's in 2015. And I guess one explanation may be that, like you

said earlier, there was just some kind of search that was done that was carried over?

A. That would be my guess.

Q. But either way, it's not accurate, right?

A. I highly doubt if it's accurate. If you're missing a drug that should be there, I -- you know, the data that's there for the drugs that are there are probably accurate, but, obviously, you can't be missing methamphetamine.

Q. Right.

A. And, again, I think that's probably what happened.

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(Thereupon, Deposition Exhibit 5, 9/10/2007 Letter from James Orr to Summit County Medical Examiner, With Attachment, SUMMIT_000042195 to 000042198, was marked for purposes of identification.)

- - - - -

Q. Tell me when you've had a chance to look at this.

A. Okay.

Q. Again, my guess is you're not going to certainly remember a document off the top of you head from 2007.

A. Not at all.

Q. And I don't see your name on it, so it's not clear that you ever would have gotten something like this, right?

A. I don't remember this at all.

Q. Okay. And I -- I really just want to use it more illustratively to just ask some general questions to orient you.

But you mentioned that from time to time there are requests from lawyers, typically plaintiffs' lawyers, right, seeking to bring lawsuits against people for information, right?

A. Correct.

Q. And have you seen those letters? Are they filtered down to you from time to time?

A. They usually are addressed right to me specifically requesting toxicology. And sometimes there's 20 different points that they want to address. The information on this or that, you know, all that stuff. Maintenance records, procedure manuals, et cetera, et

cetera.

Q. Do you kind of physically respond? You collect that information yourself, or do you have a person who helps you with that?

A. I'm it.

Q. You also do that? And do you keep a copy of those responses?

A. I make a copy that I sent -- one copy I send to them. The other copy, I stick it in my file.

Q. That's in your files today?

A. That's in my manila folder files.

Q. And those -- those weren't collected, as far as you know?

MS. KEARSE: Object to form.

A. Collected how?

Q. Where the lawyer- -- do you know if any of the lawyers in this case asked you for access to those?

A. I don't think anybody asked me for access to any -- access to any of my files?

Q. The manila files that you're talking about.

THE WITNESS: Oh. Did you guys ask me for any?

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A. I don't -- I don't recall.
Nobody -- put it this way. I did not share any of the files with anybody that I can recall.
Q. And you would have if you were asked, right?
A. Yeah.
Q. And this person -- this goes back to 2007, this letter. Do you see that?
A. I do.
Q. And it's from a Dallas law firm. Are you familiar with them?
A. No.
Q. And they -- they want the autopsy report and all toxicology reports. Do you see that?
A. All toxicology reports and -- yes.
Q. And they are sending, right -- they attached information that was provided to them before that from the ME's office?
MS. KEARSE: Counsel, I think -- you stated you were going to use this for a different purpose. He's testified he's never seen this document.
MR. CHEFFO: Okay. I note your objection. Thanks.

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A. Yeah.
Q. Right?
MS. KEARSE: And now you're asking him specifically about the document. It was kind of the -- what -- how you represented to the --
MR. CHEFFO: That's fine.
MS. KEARSE: -- witness how you're going to use it.
Q. Well, I'm going to ask you some general questions.
This -- this looks like information that is the type of information that's maintained by the ME's office, right?
A. Yes.
Q. And it looks to me, and tell me if this is consistent, that somebody from the ME's office sent them a printout of people's names, date of death, results, and cause of death, and they basically took that and basically went through it and said, "These are the specific cases that I'd like more information about"?
A. That's what it appears to be, yes.
Q. And it also appears, right, that they have the -- the actual names of these

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people as long as -- as well as the results of their -- their tox study and the cause of death, right?
MS. KEARSE: Object to form.
A. Yes.
Q. Do you -- did you know -- strike that.
Are you aware of whether there is a policy or was a policy to disclose names of decedents and this type of information to the public?
MS. KEARSE: Object to form.
A. I don't know.
Q. But we know at least in this case, right, that a law firm in Texas has all this information, right?
MS. KEARSE: Object to form.
A. A law firm requested all this information from Texas.
Q. And --
A. Whether they have it or not, I don't know.
Q. All right.
Do you know or do you have a practice one way or the other, Mr. Perch, when

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you respond to these inquiries from lawyers, do you redact or cross out any information, or do you just send them this type of information?
A. Again, they're asking me on a specific case, so obviously I need the name. No, I don't redact anything.
Q. And is this the type of information that you would provide?
A. No.
Q. What would you provide?
A. The actual data that I used to get -- well, as I said, typically the attorneys that request information from me want the technical data.
Q. I see.
A. Obviously, a report -- a tox report is just one sheet. Any -- you know, Pat would do this. He would give them the autopsy report, and the tox report is part of that autopsy report.
When they request information from me, they want a lot more. Typically they're claiming -- again, the State of Ohio has very specific standards, and they're going to claim that I don't follow the standards. I don't

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have a director's permit, for example. I don't have a procedure manual. So they're going to list all these points. They want to see all my documentation to confirm all these different areas that they're contesting.

Q. I see. And in this particular case, at least, you know, 10 years ago, this person, James Orr, looked like they were asking for, quote "autopsy reports and tox reports," right?

A. Correct.

Q. So if you were to receive something like that, is it fair to say that you would respond to the extent that it was toxicology report-related, and then you'd pass it along or somebody else?

A. I'd pass it right along off the bat. I wouldn't mess with this. This would go to Pat.

Q. This one is from 2007, Mr. Perch. Do you remember if you had received these prior to that? In other words, from the time that you've been at the ME's office, as far back as that, could you remember receiving, kind of, requests like this? Lawyers' requests for

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information about cases?

MS. KEARSE: Object to form.

A. Do I remember? No. I'm assuming I probably got requests.

Q. Okay. Is there a -- do you know if there's a place where records go when they're -- they're no longer needed for immediate use, in terms of, like, you know, a storage facility or something like that?

A. Yes, there is.

Q. Where is that?

A. No idea.

Q. Outside your area.

What -- is one of the administrative folks, they make that decision?

A. Yes. Denise, our administrator.

Q. Now, with the -- those manila files, I think you told us -- and correct me if I'm getting this wrong -- that for homicides or undetermined, there's a five-year statutory requirement.

A. That's the actual samples.

Q. Okay.

A. The manila -- I have the manila files for at least 10 years.

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Q. Do you know about -- anything about the practices of the other -- like the other MEs, or the MEs?

A. I know the laboratory practices, yes.

Q. And the document retention? I mean, do they keep paper?

A. A lot of them don't. They'll keep paper on the current cases, but a lot of it is -- is digital now.

Q. And do you know if anyone other than people who work in the ME's office review or make decisions as to what information should be responded to?

So, for example, to your knowledge, does anyone call up the county legal department, or are these handled typically -- these requests for information, are they typically handled internally by the department?

MS. KEARSE: Object to form.

A. I know that I run -- I get subpoenaed constantly. Typically I will run -- if it's not a local muni case, I'll run it through our legal department, or certainly to make them aware that I've got a subpoena for

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federal court in Cleveland, da-ta-da-ta-da.

Q. And who is the -- what office? Is it a --

A. Legal services.

Q. For Summit County?

A. Summit County.

Q. And is there a particular person that supports that department?

A. Bob -- Bob something.

Q. Bob. Bob in legal services.

A. Bob.

Q. He's probably on your -- your cell phone or something or other.

A. He's an attorney. Bob Hi- -- it begins with an H. I can't remember his last name.

Q. Okay.

A. We typically deal with e-mails, to be honest with you.

Q. And do you -- do you know if -- if people went through or did any searches on your e-mails?

A. I think they did.

Q. And how do you know that?

And again, I don't want you telling

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me anything that you talked to about your lawyers, but --
A. Yeah. You know, how do I know that? I sat with one of them.
MS. KEARSE: And again, for conversations with anyone from my office or that they --
THE WITNESS: Yeah.
MS. KEARSE -- you can't talk about that.
A. And -- but I don't remember how -- you know, I wasn't paying much attention. You've got to remember, I'm a one-man operation, and I'm just irritated because I'm busy and all my work sits.
Q. Has there been -- have either you suggested or others that someone should be hired to supplement your work or help you?
A. Oh, absolutely. They -- we applied for a grant to get me an assistant through the Coverdell, but they denied us because they said I didn't have a staff so they couldn't give me an additional staff. It makes a lot of sense, right?
Q. What about -- what about the

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county?
A. The county actually has an open position, and they want me to give them a -- about a year's notice before I retire so that they can hire somebody for me to train.
Q. What about --
A. But not as far as in the -- you know, they don't want to hire an additional -- you know, the county was hit hard with the financial meltdown. If it wasn't for that issue -- and it's taken us, what, eight years to recover, and we're still not back to where we were. You know, the real estate, it -- the tax base just dropped out. And we're still trying to recover. So it's tough to get bodies.
We lost a number of bodies. I mean, during that era, we actually took non-paid days off. We had a choice of taking non-paid days off or laying somebody off, so...
MR. CHEFFO: All right. Why don't we take a few -- yeah, so let's go off the record for a minute.
THE VIDEOGRAPHER: Off the record, 11:51.

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(Luncheon recess.)
THE VIDEOGRAPHER: We're back on the record, 12:43.
MR. CHEFFO: We're back on the record. Hopefully you had a chance to grab some lunch. I think we're going to try and move this as quickly as we can, Mr. Perch, and I'll try to be respectful of your time.
BY MR. CHEFFO:
Q. Just want to ask a few questions on a few different topics based on some, you know, catch-up that I've done this morning.
But would you agree with me that it's likely that heroin deaths, overdose deaths, are underreported because of the problems that you talked to us about earlier about kind of differentiating between heroin and morphine?
MS. KEARSE: Object to form.
Q. Do you understand my question?
A. Yeah. I -- not in Summit County. Heroin deaths or overdoses?
Q. Well, let's talk with -- with deaths. I mean -- and maybe we can just look at this annual report for a minute, page 18,

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just to guide us for a minute.
A. 2016?
Q. Yeah. So maybe "underreported" is kind of not the right word to use, or maybe it's under-classified. It's because, in other words, if you look at 20 and 21, the charts on Table 18, to the extent that they are -- the drug is identified as a cause of death, it is reported, but do you see that morphine is 65?
A. Correct.
Q. Right, and you see that heroin is actually only 53?
A. Correct.
Q. And doesn't that strike you as not correct? That it's more likely that heroin -- people are overdosing on heroin use, not morphine use; however, the way it's captured in the tox reports, you're only able to determine morphine?
MS. KEARSE: Object to form.
A. Well, that's one possibility. Another possibility is the additional 12 deaths was due to morphine sulphate.
Q. Okay. And like I say, I don't have --

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A. Prescription morphine.
Q. Okay. And I don't have any visibility, right? So this is in your -- your kind of world.
A. Yeah.
Q. I'm just -- you know, from what you do -- and this is just last year or a year or so ago --
A. Right.
Q. -- you know, and again, you can't remember every single case, but do you remember believing that more people were actually -- the cause of their death was prescription morphine that they either got --
A. No, no, no. The way I'm seeing this is 53 cases had heroin.
Q. Yes, sir.
A. 65 cases had morphine. 53 of those morphine cases are probably heroin.
Q. I see. So this may be double-counting?
A. You know, I -- statistics are funny. Me, in order to make a logical decision on what the cause of death is, I have to really look at the whole case, not a bar chart.

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Q. Okay.
A. You know, as bad as it sounds, but this is probably the more accurate. This first --
Q. Right. Exhibit 1.
A. Exhibit 1 is probably a more accurate way of doing it because it tells you everything that was found there in both blood and urine, if there's both samples there.
Q. I see.
A. Again, bar charts are great to get a general feel of things, but once you try to start dissecting them individually, that's very difficult. There's multiple ways to interpret that.
Q. Is it fair to say that you believe, and we could look at Exhibit 1, that many of the people who were overdosing and dying in 2016 in Summit County are from heroin as opposed to initially ingesting morphine?
A. I'd have to look at each case and actually do my own statistics. Looking at the first page, I don't see any heroin or morphine in there.
Q. All right. Well, let's -- let's

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use one as an example. I don't think I'm going to ask you to go through every one. Let's -- let me see if I can find one.
A. Yeah. On the third page, there's a morphine. Acute mixed heroin is the cause of death. Alprazolam and oxycodone toxicity.
Q. Right. Like, and that's my question, really, is let's look at the last two, 55281 --
A. Uh-huh.
Q. -- and then 55286. Do you see those?
A. I see them.
Q. So if we look at the tox results, it says "morphine (free)," in parentheses, on both of those.
A. Right.
Q. Right? So the tox results show morphine, but based on the analysis of the blood and the urine, you're able to determine it's actually heroin?
A. Well, true, but I don't see the urine results here, so this is -- this report is incomplete, in my estimation.
Q. Okay. And just for assumption or

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argument's sake let's assume we had the urine, what would -- what would it need to show you in order for you to make a determination it was actually heroin as opposed to morphine?
A. I'd have to see a heroin metabolite in the urine.
Q. Okay. And --
A. Now, that doesn't necessarily mean that there wasn't a combined heroin and morphine sulfate ingestion, but it sure does narrow it down quite a bit.
Q. Right. And at least in those two cases, right, the medical examiner who signed off said that these were acute mixed heroin, right, and the next one says mixed heroin and Fentanyl. So it was either, presumably, Dr. Kohler or Dr. Sterbenz had --
A. And they're looking for the same thing I'm looking for.
Q. Right. So they were able to make a determination of heroin because presumably the urine analysis showed some type of metabolite that led them to believe it was heroin?
MS. KEARSE: Object to form.
A. That -- correct.

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Q. So I guess for purposes of really what I was just trying to ask you is that just based on your general kind of recall and experience, it would seem odd to you, right, that more people actually died of morphine just as kind of a stand-alone morphine than actually heroin, based on the data and things we've just looked at?
A. Well, again, it's difficult to interpret bar graphs just based on what I'm seeing here.
Q. Okay. Are there -- are there some cases based on just the -- the limitations of the testing instruments and time where you're not able to make a determination that the morphine is actually heroin?
A. Yeah. If I've only got blood and no other -- and if the patient is badly decomposed sometimes I only have tissue, I find morphine. How do you determine that morphine's from heroin or from morphine sulfate? Well, again, you have to look at the bigger picture. If they find a syringe with heroin in it next to the body, that would certainly indicate that it's from heroin.

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Whether it's 100 percent accurate, I don't know. That's up -- again, that's up to the pathologist to determine that. But they do have additional information.
Q. I see. And morphine -- I'm sorry -- heroin and morphine is one example where in order to get a full and complete picture you need both blood and urine. Is that also true for carfentanil?
A. With my limitations, I'm limited to only being able to test carfentanil in the urine, so it's kind of the opposite. I'm not able to test the blood at all over a -- under 1 nanogram, and you're never going to see -- well, I shouldn't say never, but rarely are you ever going to see over 1 nanogram of carfentanil in the blood. Typically you're going to see 60 -- 50, 60, 70 picograms. So it's just way too low for me to test the blood for carfentanil.
So especially early on, when nobody tested carfentanil at all, we were -- and the first lab I had to test for it was in Columbus, and they were only giving us positive and negatives. They weren't even giving us

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numbers.
Q. But -- and fair point, and I probably asked you, about you. But with carfentanil, for example, it's -- you can do the urine, and that gives you kind of a detect, but you will then send it out for a confirmatory blood test?
A. If I deem it necessary to get a -- not a confirmatory. Quantitative.
Q. Quantitative.
A. If we feel that we need a number and -- to show that it's in the blood, yes.
Q. Is -- are there situations where you get a positive urine screen for carfentanil, send it out for the blood, and it comes back negative?
A. Have I ever got one like that? I can't recall, but, I mean, it's possible to happen, sure. But it's -- I haven't recalled ever getting anything like that.
Q. Have you ever been asked to quantify any costs or additional expenses that might be incurred as a result of opioid-related issues?
A. I think we had to justi- -- we had

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applied for a Coverdell grant, which is a federal government grant for law enforcement. That's my understanding. And one of the reas- -- one of the ways I tried to justify it was the workload increase from illicit drugs and various drug overdoses in the last few years. The cost of materials and supplies increased. The cost of reference work increased. The cost of -- the cost of my equipment being constantly used and gases involved, all that stuff, sure.
Q. And that -- that's different than the other grant you told us about, the justice grant that was declined.
A. That was a Coverdell grant.
Q. Oh, it's the same -- same grant?
A. For the -- for the -- trying to get an extra employee?
Q. Yes, sir.
A. The same grant.
Q. The same grant.
A. It was a $250,000 grant.
Q. I see. And that was the one that was denied, but you were asking both for additional person --

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A. Personnel and equipment, yes.
Q. -- and equipment, okay.
Other than that, is there any other time that you've -- you've been asked to assign any kind of economic value or dollar figures to any extra work or expenses that you might have incurred?
A. I probably did a similar thing for the county when I tried to get them to buy me equipment. You know, you have to justify --
Q. Sure.
A. -- them to -- the expenditures of the county to purchase equipment, et cetera. So I'm sure I probably wrote up a justification, and part of it was the increased workload, wear and tear on the instrumentation, et cetera.
Q. In connection with your work for the police department, which I know is more limited than your full-time job, you told us that you're seeing kind of this year, I think you told us, cocaine, methamphetamine, and Fentanyl, right, in what you're seeing in the ME's office. Is that consistent with what you're seeing in connection with your work for

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the police department?
A. Yeah, yeah. Yes, it is. Again, there we had so many more samples. As far as the hard drugs or the potentially lethal drugs, yes. We also get a ton of synthetic marijuana and all the synthetics, things that typically aren't lethal but are highly abused.
Q. So, yeah, let's just talk about that for a minute. The drugs that are -- that are highly abused but not lethal, what would those include, in your view?
A. The synthetics. Synthetic pot. You know, there's dozens of different forms of the synthetic marijuana. Then there's the bath -- quote, "the bath salts." There's a huge variety of those.
There's always something new coming around. Kratom is a weed -- some kind of weed that people are drying and smoking now. I guess South America -- it came from South America, or at least the concept of using it, and that's becoming big.
And I had a case where jimsonweed -- are you familiar with jimsonweed?
Q. No.

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A. Locoweed. It's a plant that grows wild in all of Ohio, and it's a hallucinogen. We call it the poor man's LSD. So, I mean, there's always something.
But again, at the ME's office it's a little different. I have to focus on things that are potentially lethal, so my scope is a lot narrower.
Q. Right, right. So those -- those are -- it seems like there's kind of, with some frequency, new drugs or substance of abuse that are always entered into society. Some of them, like carfentanil, become particularly lethal; others may have a societal impact, but they don't often lead to death. Is that fair?
A. Yeah.
MS. KEARSE: Object to form.
A. They rarely lead to death. They're really just a recreational use, similar to pot, in my opinion. You know, that's -- drugs of abuse have been around forever. You know, pot is number one still, so -- marijuana, cannabis, whatever you want to call it.
Q. Uh-huh, uh-huh. And we haven't talked much about your work at the Oriana

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House, other than I think, you know, you told us that you initially set up the lab in order to get some type of certification, which you were successful at getting.
But can you just give us a little more insight as to your -- your general function and role there, what you do with them?
A. I set up their quality control program. You know, this was a lab that does a lot of urine screens. Hundreds a day. It's an alternative-sentencing facility, so a lot of it is court-mandated. People that go in there that are drug abusers, traffic offenders or minor -- I should say minor offenders of the law, what have you, and they're court-mandated drug screening. So they do hundreds of samples a day. They have a huge analyzer. And all they do is strictly urine screens, positive/negative.
Typically, they go in, they do a baseline on these clients or patients, and they're going to be positive because that's why they're in there. So they repeatedly test them every day or two until they go negative. Kind of reverse of what we do. So they start out

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positive and they're -- they're supposed to clean themselves up. And once they go negative, then they're monitored again for a period of time to ensure that they don't go positive again or fall off the wagon. So that's -- that's what they do typically at Oriana House.

My role is to --

Q. Is this -- is it inpatient or an in- -- kind of live-in halfway house, or is it --

A. They do. They have all kinds. They have some that are -- that go to work on a work release program, some that get weekend passes. But they do have in-house facilities. They have a -- actually a jail that's staffed by the sheriff's department. I'm not sure how all that functions.

But my role is very limited. I strictly deal with the laboratory to ensure that they have reliable results and they're done appropriately, documentation is kept up, and all the standards are met for the CLIA certification, meaning performance appraisals, all kinds of stuff like that.

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Q. Is the -- is the urine screening that they do the same that you do as kind of your routine, or is it -- is it more kind of focused on drugs of abuse?

A. It's very similar. Basically it's a different analyzer, but it's the same juice, so to speak, or the same reagent, the same company, the same manufacturer. Siemens is probably the number-one-used assay in the United States, certainly.

Q. In both, I guess, for you and your work at Summit County and -- and Oriana House, what happens with something that's, you know, more challenging to detect and monitor for, like carfentanil, for example?

Now, I take the point that it's a very dangerous drug, right, so many people who abuse it could ultimately expire. But to the extent that someone was abusing it in, let's say, Oriana House, would that get captured?

A. No. Unless they have -- now, they do have the flexi- -- they pretty much order standard panels. They only test for five or six drugs, and they're the typical drugs of abuse, including alcohol.

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Now, if they suspect carfentanil or Fentanyl, they can send it out. They use a reference lab known as Redwood out on the West Coast, somewhere in California. Redwood Toxicology. And they can specifically order a carfentanil or Fentanyl panel, Fentanyl analogue panel. They -- they order -- and they routinely order other drugs that aren't part of their regular panel.

I want to say there was one that they suspected that patients were abusing. It was a laxative. I don't know why. But they sent out quite a few of these samples to be tested for laxatives. I forget the -- the brand. So, yeah, they do have flexibility, but they typically send it out.

Q. And so -- but the panel, again, if you know or recall, but it would be alcohol, you mentioned. I take it marijuana?

A. Alcohol, opiates, oxycodone.

Q. Would Fentanyl be on it?

A. It used to be. It was very expensive. They weren't getting too many, so they dropped that, and it's a referral now. They send it out if they need it. And

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amphetamines. THC is their biggie. And coke.

Q. Okay. And in your -- switching back to Summit County for a minute in the medical examiner's, I saw some reference to the fact that, you know, these -- these kind of Fentanyl analogues keep changing, carfentanil.

Do you -- does your initial screen, to the extent that there was a new analogue that came out, you know, kind of yesterday, would -- would it capture it onto the Fentanyl screen, or do you have to keep, like, updating your --

A. No.

Q. -- and chasing these -- these drugs?

A. I couldn't. So what I ended up doing was I would screen for carfentanil and Fentanyl. And if I didn't confirm either of those two, I'd send it out to a lab called American Institute of Toxicology. And they had a panel that probably had over a dozen different analogs. And part of their role for charging me 200 bucks was they were supposed to maintain and be on top of what was out there.

Now, I had, again, a heads-up

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working at APD. We knew what was out on the street before the reference labs did. So I had a good rapport with the toxicologist, and I would tell him, I said, "Hey, we're seeing 4-methylfentanyl. Is that part of your panel?"

He goes, "Well, we're working on it."

And I said, "Well, this sample I'm sending you," you know, and I would write down on the requisition, "I suspect 4-methylfentanyl," so I want to make sure that they test for it. And the reason I knew that is, again, the paraphernalia and the residue and all that stuff was so much easier to test for it.

Q. Uh-huh. Got it.

So -- so really, you know, some of the -- I guess it's a good news/bad news story in some regards. The bad news is it's expensive, as these kind of analogues keep getting created, that you have to use outside labs because it's difficult, right?

A. Absolutely.

Q. The good news, I suppose, is at least in the last year you've seen a precipitous drop --

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A. I have.

Q. -- of these new analogues?

A. I have.

Q. I think you mentioned -- did you -- did you say -- like, amphetamines, is methamphetamine part of that --

A. Yeah.

Q. -- Oriana? That's -- that's would be included, right?

I think I just have a few more questions, which will probably be the best news you've heard all day.

So -- oh, actually, I have to follow directions, too, so I'll have to just -- we're going to spend, like, a minute on this document.

- - - - -

(Thereupon, Deposition Exhibit 6, Document Titled, "Summit County Medical Examiner Toxicology Policies and Procedures Manual, SUMMIT_000048059 to 000048170, was marked for purposes of identification.)

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Q. Mr. Perch, what I want you to do, if you would, is just take a look at it. And I kind of -- I really just want you to authenticate that and take a look at it and let us know if that is, in fact, looks like a true and correct copy of the Summit County Medical Examiner Toxicology Policies and Procedure Manual.

MS. KEARSE: This is six?

MR. CHEFFO: Six, yes.

A. It does. It does.

Q. And this one doesn't have page numbers. Do you see that on the bottom? Do you think there's a final version that actually has pages?

A. I doubt it. You know what? Actually -- well, maybe it does. I don't know. When was this copied?

Q. You know, I -- this was produced to us in the litigation.

A. Oh.

Q. You see those little numbers on the bottom. So I believe that this came out of the files of Summit County medical examiner, but I don't have any more information than that.

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A. You know, it's -- I'm wondering if this is off of my template or something, off of my -- I'm not sure. I'm surprised I don't have my signature on some of these methods as well, or the revised dates, et cetera. So this may have been just out of, you know, the basic file where I keep all the procedures.

Q. So you think that there might be a more formal version of this document?

A. Well, it would be the same version. You know, the main reason I keep this manual -- I'm the only one there, I wrote it, I certainly know the procedures -- is because I'm required to by the state.

Q. But let me ask you this way, right. If you had to produce it for a court hearing that you were going to, right, you would bring it -- would you bring this version, or would you get something that --

A. Well, I would -- I have an actual manual that -- this isn't signed, and I'm sure I have my signatures on it, so -- and chances are it's identical to this, with the exception of that, you know, my signatures are on -- are not on here.

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Q. If you need to lay your hands on the more formal signed version, you could do that, right?
A. Oh, yeah. It's sitting on my counter.
Q. With respect to things like, you know, calibrations and maybe test samples and standard operating procedures that, you know, you often see in a lab, is there a place that you have those? Like, you know, here's my routine of what I do in terms of testing this machine or calibrating that one. Do you know what I'm talking about?
A. Well, it's in the -- it's in --
Q. It's in there?
A. Yes and no. Gas -- GC-MS, mass spectometry, there is a procedure here on how to tune and run a mass spec. Now, you have to remember, each batch of samples I run -- let's say I run a batch of morphines. I have to run three levels of controls: a negative, a low positive, and a high positive. Then I run it on my patients. So all that data and reports are in each file. If I have six patients, I make six copies of that whole run and put them

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in each patient's file. Because, again, somebody is going to ask me for all that information.
So that the calibration that you talk of is really not a calibration. It's not like a typical chemistry analyzer where you calibrate with this and that. Mass spectometry is a little different. You calibrate what's called a tune, and I do have all the tune files. I've tune the instrument. Then I validate the accuracy of the analyzer by running quality control materials.
Q. Got it. That makes sense to me. Thank you.
A. As well as I run national proficiencies on a quarterly basis. That also shows my reliability and accuracy of my testing.
I get 10 samples that I subscribe. It costs me about 2- -- 2- to $3,000 a year through the College of American Pathology, and they send me 10 samples on a quarterly basis. They're unknowns. I treat them as sample patients -- patient samples. I analyze them. I tell them what I find and how much I find. I

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submit my results. I have a time frame I have to submit it within, like 14 or 20 days or whatever it is, and then they grade me.
And there's hundreds of labs that perform the same survey, and they submit their reports. And then I get a big, thick report that shows how I did in relationship to everybody else, if it was acceptable, if it wasn't, how many standard deviations from the mean was I, was I running low or high on that particular analyte, did I miss something, did I totally screw up and miss an analyte. So I get graded in all kinds of categories.
And I have to pass all those categories, and I have to send a copy of that to the state, and that's how they renew my license every year.
Q. I see. And if there's an area that you missed or something, do you do it again?
A. If there's an analyte that I missed, for example, if I screwed up on morphine, I can't test for it until the next two quarters. First of all, I have to write a report on why I missed it, what kind of corrective action did I take. And I can't test

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for that analyte until that I pass the next survey, as well as writing up my --
Q. Right.
A. -- documentation of what I did, et cetera.
Q. Thank you. And I take it all of those -- that back and forth, reports and things, that's somewhere maintained in your file?
A. Oh, yeah. I got every one of them. As well as the state. The state has them all, or should.
Q. And do you know if -- I mean, have you, for the last 10 years, generally been in compliance?
A. Yeah. I'm running every analyte. The same thing for alcohols. I have to do the exact same thing. That's a whole different survey.
Q. The -- just one more kind of housekeeping question. This is -- some of this or much of this is probably very sophisticated machinery. Is there -- is there kind of a maintenance person or company or kind of contract that you have that fixes things to the

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extent that they need to be fixed?
A. Yes. My screening analyzer is under -- it's -- I do a reagent rental on some of this equipment.
THE REPORTER: It's called a what?
A. It's called reagent rental. They provide me the instrument. They provide a service contract that includes a PM, and I just buy the reagent. Of course, they quadruple the cost of the reagent because they're going to recoup the cost of the analyzer over time. And we all know that up front.
That's how hospitals do everything. They don't -- nobody buys equipment anymore for the typical analyzers. They -- they buy this -- the juice that the instruments need to run. And it's a lot more pricier, but on the other hand, technology moves so fast now, you pay $100,000 for a piece of equipment, and it's outdated next year. So, when -- you know, when you -- versus you basically lease the equipment. They upgrade it every time there's a new revision. You've got their service people that charge 300 bucks an hour to come in normally, and -- you know, so it's all part of

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the -- the pricing mechanism. That's the most cost-effective way to do things.
Q. Is there a company that you know a name that -- the name of a company?
A. Yeah. Siemens is my --
Q. Oh, Siemens is the company?
A. -- is my company that -- for the immunoassay analyzer. I have it all through them.
Agilent is the mass spec people. I have a service contract -- well, right now it's still under warranty on the new mass spec. That includes a PM.
Q. I'm sorry. What's a PM?
A. Preventative maintenance call.
Q. Oh. Thank you.
A. They come in and do all of the --
Q. Sure.
A. -- preventative maintenance call. And they give you records that they did all the -- all that. Which is Agilent. They used to be Hewlett-Packard. They spun it off.
Q. Okay. Two more areas for you, then I -- then my colleagues may or may not have a question. But just want to ask you a little

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bit about the differences in strength of some of these medicines or drugs.
I've seen references that Fentanyl is 40 to 50 times, if not more, more powerful than heroin. Is that kind of in your range of -- does that sound about right?
A. That's -- yeah.
Q. And then --
A. It depends on how much they've cut it. You can cut it and make it any concentration you want. Typically it's much more potent, yes. 40 to 50 times sounds good.
Q. And -- and this sounds like a big number, but carfentanil is 10,000 times more potent than morphine?
A. No.
Q. Is it 1,000 times more?
A. Here's an example. Yeah, it could be 1,000 times more.
Q. I may have just written that down -- wrote it down, right. Now that I said it, I think -- I -- at least what I wrote was 1,000.
A. A lethal -- let's take a 100 nanogram -- we're talking about the levels in

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blood, lethal levels. Let's say 100 nanograms per ml of morphine is potentially lethal in the blood. Fentanyl, 5 nanograms is potentially lethal in the blood. Carfentanil, .05 nanograms is potentially lethal. So here a factor of 100, 10 -- about 1,000.
Q. It's good to have friends, Mr. Perch, because my friend sitting next to me just handed me this document I should have showed you before, because I think this will confirm it.
MR. CHEFFO: But let's just mark this, because I think this confirms what you just said.
- - - - -
(Thereupon, Deposition Exhibit 7, Document Titled, "Carfentanil and Current Opioid Trends in Summit County, Ohio," SUMMIT_000093982, was marked for purposes of identification.)
- - - - -
Q. So this, I think, is a presentation that was done kind of after your paper. Have you ever seen this document?

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A. No.
Q. Okay. Well, again, as with that, I'm not going to ask you --
A. Oh, it's Kristy Waite again, huh.
Q. Yeah.
MS. ROITMAN: I have a Bates number for you. We'll put it on the record after.
MS. KEARSE: Okay. And he just said he's never seen it before, so I just want to...
A. At least I -- I don't recall. I may -- I may even have it.
Q. Right.
A. Kristy was pretty good about sending me all this stuff. I just never really paid much attention.
Q. You know, your name is on the front page, right? So --
A. Right, it is. So I should be familiar with it.
Q. If you look at -- unfortunately, these don't seem to have page numbers. But I would look at one, two -- if you flip three pages. It says, "This is how we met the drug known as."

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A. "Materials and methods"?
Q. I'm above that.
A. Oh, above that. Okay.
Q. So carfentanil is 100 times the strength of Fentanyl. This says 10,000, actually, times morphine. Is that possible or do you think it's more like --
A. Let me calculate that here. Hang on a second. 100 times the strength of Fentanyl, which is true. And Fentanyl -- and 100 times 100 is 10,000. Yeah.
Q. And then --
A. But that's in the pure form.
Q. Understood. And it could be cut, right?
A. Absolutely.
Q. In different -- different ways.
If you look at the "Results" section, which is, like, two more pages. This says from 2009 to 2016, the number of total drug overdose deaths was 1,065. Do you see that?
A. I do.
Q. Now, when we talk about total drug overdose deaths, that would include things like

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suicide. It could include things like accidental, malpractice-type claims, right?
MS. KEARSE: Object to form.
A. What was that again?
Q. Sure. When we -- when we talk about -- when this talks about the number, 2009 to 2016, the total drug overdose death cases was 1,065 --
A. Okay.
Q. -- drug overdose deaths, that would include things like suicides, right?
A. Yeah.
MS. KEARSE: Object to form.
A. Any -- any form of overdose, I'm assuming.
MS. KEARSE: Again, I'm going to direct the witness not to guess.
MR. CHEFFO: I don't think he's guessing, but...
Q. And it also --
A. And again, I didn't write this.
Q. No, I understand. I understand.
And I'm just going to -- in the middle there it says the caseload rose from 70 in 2009 to 264 in 2016, right? I think if you

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flip to the next page, she's referring to that bar chart that we talked about a little bit earlier?
A. Correct.
Q. And again, I'm not going to ask lots of specific questions, but would you agree with me that the carfentanil deaths were largely in one time -- kind of point in time in 2016 where you saw very significant deaths associated to carfentanil?
A. No.
Q. What -- did it occur after 2016?
A. I will agree with you that it started in the 4th of July weekend of 2016 and just ballooned for the rest of 2016. It didn't get any better. It got worse. And then 2017 was just as bad.
Q. Okay.
A. So that year and a half was carfentanil. It was, you know, basically the carfentanil epidemic.
Now, prior to that, when I first started the coroner's office, as I mentioned before, I would see trends. You know, initially in the early 2000s, hydrocodone,

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oxycodone, and that lasted for years. I mean, you see peaks and valleys and spikes.

But typically what all I saw the first 10 years at the coroner's office were prescription meds. Very low levels of illicit drugs in terms of lethal nature. Most of our deaths -- and I don't have the statistics. This is just the perception I had.

Q. Uh-huh.

A. The first 10 years I'm there.

Then, the last 10 years, I saw some fluctuations. You know, the prescription -- as I mentioned, we had pain management centers back then, quite a few of them. As a matter of fact, my last few years at City Hospital I created a special drug test aimed at pain management centers where I incorporated the things that they wanted to see, which is the opiates: oxycodone, hydrocodone, Fentanyl, methadone, et cetera. And we called it the pain management panel.

We originally created it for St. Thomas Hospital. And after several weeks, we were getting calls from Cleveland Clinic, Aultman Hospital. Cleveland Clinic would have

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a courier courier samples down to us twice a day. So we were doing quite a bit of these things, obviously because pain management was a big deal back then. That was the first five, ten years that that's what we were seeing.

The last ten years the prescription meds started fading out and more of the illicit drugs came into being. And I don't have the exact time frame. That's why I'm giving you a nice range.

Q. Uh-huh.

A. Again, we started seeing more heroin, more Fentanyl, then a lot more Fentanyl, and more methamphetamine. Coke was always there. You know, small deviations, always there. But the big increases that I noticed in the last five years again was the Fentanyl and the heroin, and all of a sudden the carfentanil hit, and that just obliterated everything.

Q. Uh-huh.

A. So that's the general time frame that I saw.

Q. Okay. And let me just ask you, then, because we'll come back to that. But I

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want to ask you about -- I don't have 2017, so thanks for that. You know, I didn't know what the numbers would look like, but --

A. Oh, they were -- they were bad.

Q. -- your -- your kind of rough estimate would be that we would see a very significant carfentanil --

A. Correct.

Q. -- bar in 2017 if we had that data, right?

A. Yes.

Q. Okay. But if we -- if we looked basically from, you know, 2014, '15, '16, if we were to take away carfentanil from 2016, it would look not exact, but there would be -- in terms of from these charts, the number of cases would look similar, right? The driver of the spike is, looking at this, is carfentanil?

A. Well, you got to remember, you got to fill it with something. You got how many -- you got 140 carfentanil addicts. They're going to take something. So if carfentanil is not available, something else will -- will be, so to speak. So I'm not sure what it would look like, but if -- you know, speaking exactly, if

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you just take away the one bar, yes.

Q. So your view is addicts are going to abuse virtually --

A. They're going to find something, you know.

Q. -- whatever is available.

A. Carfentanil disappeared, what did we get a spike in? Fentanyl.

Q. Right. Or it could be this weed that you talked about or some other new --

MS. KEARSE: Object to form.

A. You know what? That's a party drug. You know, partiers will smoke that. Addicts, they're not into that stuff.

Q. Let me ask you about -- just because you mentioned a little bit about the prescription drugs.

There are many of these, actually, other than Fentanyl, right, which can be a prescription. But I think as we've talked about, you know, the view, right, of Dr. Kohler and you is that in at least the last, you know, eight, ten years, that's not prescription Fentanyl; that's illicit Fentanyl, right?

MS. KEARSE: Object to form.

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A. The last how many years?
Q. Eight to ten years.
A. I would certainly say the last three or four. Prior to that, actually, you know, we saw quite a bit of prescription Fentanyl in terms of the patches.
Q. Okay.
A. I don't know how many times we saw -- and Dr. Sterbenz would be the best, or Dr. Kohler, but numerous times -- and they would give me a heads-up -- we saw several patches on this guy or they'd find it in their gut. You know, people were licking it or eating it, so we would find the actual Duragesic patch in their gut. So I saw quite a few of those.
Q. And a question about that is, is it's obviously easy if you have something like heroin or cocaine -- other than if it's still used for some kind of nasal surgery, but assuming it's not -- or carfentanil, there's no -- there's no differentiation; they're not at all used for human purposes, right?
A. Can I differentiate from pharmaceutical versus illicit? Are you -- was

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that what your question was?
Q. Yeah, I'm basically just saying that they're -- just because something is a prescription drug, right, it still can be --
A. It's still the same drug.
Q. -- abused also.
A. Sure.
MS. KEARSE: Object to form.
Q. Right? It doesn't mean that the person -- like I said, if you found a Fentanyl patch in somebody's -- three or four of them or in their stomach or some other, that doesn't mean that they were prescribed and using it as directed, right?
A. I would -- I would highly doubt that anybody is going to prescribe four patches at the same time. No, I'm sure it was being abused, sure.
Q. All right. And there's really no way, from a toxicological perspective, to determine whether someone was prescribed -- so if you find oxycodone, for example, right, without more investigation, you can't just look at the tox studies and say this was a lawful oxycodone prescription for that person or they

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took it out of somebody's medicine cabinet or they bought it on the street, right?
A. No. I have no way of knowing any of that.
MR. CHEFFO: I'm asking if anybody has anything before I do pass.
MS. KEARSE: Why don't we take a break.
MR. CHEFFO: Sure.
THE VIDEOGRAPHER: Off the record, 1:29.
(A recess was taken.)
- - - - -
(Thereupon, Deposition Exhibit 8, Screen Results for Case #49990, SUMMIT_000042349, was marked for purposes of identification.)
- - - - -
THE VIDEOGRAPHER: We're back on the record, 1:47.
EXAMINATION OF STEVE PERCH
BY MR. EMCH:
Q. Mr. Perch, a few questions for you, and I don't think we're going to take you into the length of the day here today.

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If you go back to Exhibit 1, and also you've got -- you don't need to look at it, but you've got your toxicology manual there in front of you.
Let me ask you first about the toxicology manual. Are there any other reference sources that -- and maybe you don't even need to look at the manual very often because you wrote it. But are there reference sources that you keep that are internal sources, like the toxicology manual, that you use routinely?
A. Randall C. Baselt.
Q. All right. And that's an outside reference, right?
A. It's an outside book, yes.
Q. So if I say the toxicology manual and Baselt, would those be the two things that you might look at most often?
A. Yes. I rarely look at the toxicology manual. Baselt I look at all the time, as well as some of the other reference ranges I mentioned, Allegheny County coroner's office, as well as Chapel Hill coroner's office.

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Q. But if we wanted to pull up one that was as close to being, you know, the standard thing or the -- the Blue Book, from your perspective, that would be Baselt?
A. Yes.
Q. And the latest edition, you try to keep the latest edition?
A. I do.
Q. And that's the one that's got reference levels and things like that in it?
A. Correct.
Q. Now, you made some -- you made some comments pretty quickly off the top of your head. I mean, you have a lot of those -- those numbers kind of top of the mind, anyway, yourself?
A. Some drugs that I see constantly, you remember. Drugs I don't see very often, I'll have to pull up a reference.
Q. Okay. Now, back to Exhibit 1. The first -- the top, first one, 55236 on Exhibit 1, you talked about a little bit in your testimony. And we talked about the fact that the two were pulled out, methamphetamine and Fentanyl, for the cause of death.

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A. Correct.
Q. Because it got four listed over there on the right. And I -- I think you mentioned that each of those four levels that are in the tox results on that "Toxicology Results" column were levels that could be fatal.
A. Well, I meant three. The amphetamine is actually a metabolite of methamphetamine.
Q. Okay.
A. So I consider that together.
Q. All right.
A. And the oxycodone, of course, is separate, and so is the Fentanyl.
Q. Now, methamphetamine and Fentanyl that were pulled -- pulled out by the pathologist and identified as the cause of death in this particular instance -- and I believe your testimony was if we want to try to figure out how they came to that conclusion, we'd need to go back and look at the full autopsy record for that individual, right?
A. Well, I think I said you need to ask the pathologist, assuming that the record

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is what's listed here.
Q. Is there -- from a toxicology standpoint, is there some kind of a cross-reaction that exists between methamphetamine and Fentanyl that you're aware of that might cause them to interact in a way that would bring about a death that's different from other combinations of drugs? Do you know what I'm asking?
A. Not that I'm aware of.
Q. Okay. And again, if we go to the whole report and/or talk to the pathologist about it, they would be able to explain why they pulled those two out?
A. I would think so.
Q. Okay. The -- let's drop down to the 5 -- 3 -- 55238. Do you see that one?
A. I do.
Q. Acute mixed-drug toxicity?
A. Correct.
Q. And just a little bit ago in response to a question about -- I don't remember what the question was about, but you were -- you rattled off some levels that could be lethal for some substances. I wrote down

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that you wrote Fentanyl, 5 nanograms per milliliter?
A. Correct, yes.
Q. And --
A. I do remember that.
Q. And carfentanil .05 nanograms?
A. Okay.
Q. And this is just information.
A. Right, right. 15 -- 50 picograms of carfentanil, or .05 nanograms, yeah.
Q. So the list that's on this 55238 --
A. Correct.
Q. -- acute mix-drug toxicity, Fentanyl, 3.9, so, I mean, that would not hop out at you as being an independently fatal dose?
A. You have to look at the whole picture.
Q. I'm with you.
A. By -- a number by itself, most references are going to say Fentanyl therapeutic is 1 to 3. That's therapeutic if you're using a patch.
Now, the difference between using a patch and an illicit drug is a patch is

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designed so that it slowly infuses the drug over a long period of time so you don't get that bolus of drug into your system.

Now, the 3.9 by itself doesn't look -- doesn't look that substantial. But we don't know the route of ingestion. If he injected it and then he -- and he lingers for 45 minutes and then he dies and we're getting a sample after, a postmortem sample -- there's a lot of other information, is my point, you need to look at. Not just the number by itself. But the number by -- the number by itself is not that significant.

Q. Okay. The same kind of question on methadone at 90 nanograms per milliliter.

A. The same answer.

Q. Okay. And for the other two as well?

A. Correct.

Q. All right. So back again, we -- we would need to look at the full record and/or consult with the pathologist or see the report in order to have an understanding or fuller understanding of --

A. In this particular case, yeah. On

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the case number one, where you got 14 nanograms of Fentanyl, I don't have to look at anything else.

Q. Right. That's far enough up in the range that you know that --

A. Yes.

Q. -- that's definitely fatal, okay.

On the 90 nanograms per milliliter of methadone, am I correct that methadone is -- that's a drug that is commonly utilized to treat opioid addiction? Do I have that right or --

A. It is.

Q. And maybe you can't answer these questions. I know it's pretty technical.

But if an individual were being treated for opioid addiction and was taking methadone at, say, a level of 15 to 20 milligrams per day, would that or could that produce a 90 nanogram per milliliter level in blood?

A. You have to remember there's a lot more to it than just taking 15 to 20 milligrams per day. I couldn't answer that in the context that you asked.

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Q. All right. The last one, which I still can't pronounce. I've been trying to practice on it, but I still can't get it. What is it? Benzo --

A. Benzoylecgonine.

Q. And that is an indicator of --

A. Cocaine.

Q. -- cocaine. It's a metabolite of cocaine?

A. Correct.

Q. When one is looking at a level, in Baselt for example, that he would write or she would write is a range -- within a range for being a fatal level, are metabolites treated differently?

I mean, is it literally the same kind of analysis in the sense that the metabolite will show up in a certain range, and if it's in that range, then you can say it could suggest that it's fatal or therapeutic or something else?

A. Depends --

Q. Okay.

A. -- on the drug. Methamphetamine and amphetamine, you're going to typically see

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a ratio -- this kind of ratio that you see up on top. The parent compound -- again, the levels tell you a lot more to the story. If you're seeing a parent compound, the methamphetamine, 10 times higher than the metabolite, it's a fairly recent use, et cetera, et cetera.

If you're seeing benzoylecgonine at less than 100 nanograms and no mention of cocaine, the parent compound, it probably wasn't a recent use.

And every drug is unique. Cocaine is a bad example because cocaine undergoes in vivo and in vitro degradation. Sitting on the table in a tube of blood outside of the body, it's going to degrade into benzoylecgonine. Most drugs don't. Most drugs, the body -- you have to be alive to break it down into its primary metabolite. Cocaine you don't. It's sitting in the refrigerator, it's going to break down.

You're not going to find too much of the parent compound in a sample of blood after a period of time. The bulk of it is going to be broken down into benzoylecgonine.

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Again, it undergoes in vivo and in vitro degradation.

Every drug is unique. You've got to sort of look at each drug independently.

Q. Is heroin -- you gave a good description of heroin and how -- how much time it takes for that to break down. Does it break down more, also, after --

A. No.

Q. -- it's been taken?

A. No.

Q. That snapshot is going to be --

A. That snapshot is pretty accurate at the last -- right before the time of death.

Q. And what -- what is the lapse of time that would be necessary for you not to be able to find any more of the metabolite but only be -- be finding morphine? Do you understand my question?

A. Yeah. But remember, once a person dies, the drugs that are in the urine are there. They're not going anywhere.

Q. I understand.

A. So if he survives for, let's say, two days, then he -- the cause of death wasn't

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the heroin.

Q. Right. It would show up still -- would it show after -- after two days, if that's when you got the sample, would it show up as morphine?

A. You're going to see everything within that first 24-hour period. You're going to see the metabolite and the morphine. The body starts dumping this stuff right away and it starts breaking it down right away.

My point being is if -- if the guy survives for two days, and then I find heroin and he dies two days later, it's highly unlikely that the cause of death is going to be the heroin. It doesn't take you two days to die from a heroin overdose, is my point.

Q. I understand that. I'm just asking if -- if a -- if a person were -- were using heroin as well as other substances that they were abusing. And let's say I took heroin two days ago, a good bit of heroin.

A. Uh-huh.

Q. And then two days later I take a bunch of other stuff and I die. Would you or could you find morphine --

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A. I will in the urine.

Q. In the urine.

A. Not in the blood.

Q. Not in the blood, okay. All right. I think I understand, as an English --

A. Unless there was a huge amount. There's always exceptions. So -- but typically, no, I shouldn't find morphine in the blood. It's eliminated much more rapidly.

Q. Okay. When you were -- when you talked about or rattled off a few of those "this would be lethal" or "could be lethal" for particular drugs, what's the number that you would use for oxycodone?

A. You know, I don't use numbers. That's for the reference manuals to use numbers. Anything could be -- I mentioned this numerous times. Any amount of drug could be potentially lethal. You know, you got to look at the individual. Is it a person -- especially with tolerance. Especially with the opioids. How tolerant is that individual? If he's been a -- if he's been using oxycodone for the last two, three years, a lethal level on me is a normal level on him.

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Q. Right.

A. You just can't use that single number.

Q. And I do understand that, and I'm not quarreling with it. I'm just saying, do you have one in your mind that --

MS. KEARSE: Object to form.

A. Do I have a number in my mind? Not really. I mean, if it's under 100, I tend to look at it as -- I tend to look at it as a normal use kind of thing, but not -- you know, again, I'm just answering you just for the sake of answering you.

Q. You cannot --

A. I don't do that.

Q. -- without a good picture of all of the information, you're not going to be able to make that kind of judgment.

A. That's right.

Q. And you can't make that kind of judgment based just on this -- at least not unless you've got something like Fentanyl at 14 --

A. Right. Some you can, some you can't. If the level is obviously toxic and

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lethal, it is what it is.
On the borderline cases, now you start really having to look at the additional data, especially the tolerance, history of use, that kind of information.
Q. If you go to page 3 of Exhibit 1 and go down to 55281. One up from the bottom.
A. Uh-huh.
Q. And this is, you know, why I was looking for that kind of number. It says acute mixed heroin, alprazolam, and oxycodone toxicity. And it's got a morphine level and oxycodone at 54 nanograms per milliliter, which, again, is an instance where -- at least, am I correct -- and you looking simply at this spreadsheet and at that number -- would call some question about whether oxycodone was at a level that could be lethal in that individual?
A. Well, let me ask you that -- to rephrase that in a different way. Let's take away the morphine.
Q. Uh-huh.
A. And now all I have is oxycodone, now, alprazolam. Could that be lethal? It could. Again, if that's all the information I

Page 207

had, I'd have to look at the history. I'd have to look at a lot more information. Just because I have 305 nanograms of free morphine, obviously that's a high level and it's potentially lethal, but that doesn't make the same -- that doesn't mean to say that the rest of the drugs are not involved.
Again, I don't make those calls.
Q. Right.
A. I just do the analysis.
Q. But if -- if this one -- if that particular entry, the cause of death entry, had said, for example, acute morphine toxicity as the cause of death, would you have any basis, looking at those other two numbers, to disagree with that?
A. Again, I -- I don't have the information that the pathologist has. Typically there's a reason why they do that. I just don't have that information.
All I do is do the analysis and write down the numb- -- the numbers. It's up to them to interpret it. Because they have the history. They have the medical records. They have all the information necessary to make that

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call. I don't have it. And that's not my role.
Q. And I'm -- I'm really not quarreling with that, but the morphine (free) at 305 nanograms per milliliter, do you have a high level of confidence that that could be a lethal dose?
A. It could be.
Q. Not the same level of confidence for oxycodone at 54?
A. With oxycodone and alprazolam, I probably have to look at a lot more information if I -- if all I had was the free morphine at 305, I'd -- I'd certainly have a higher level of confidence as that being the cause of death.
Q. Okay.
A. On the other hand, the one right below that, you got acute mixed heroin and Fentanyl toxicity. They're both sky high. You could have died from either one of those.
Q. And "sky high" is probably the right terminology.
A. They're both lethal, yes.
MR. EMCH: Okay. Hand the witness what we have marked -- I think this has been

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marked Exhibit 8; is that right?
MS. KEARSE: Yeah, I think it's off. The realtime went off.
(Off-the-record discussion.)
THE VIDEOGRAPHER: We're off the record, 2:06.
(Off-the-record discussion.)
THE VIDEOGRAPHER: We're back on the record, 2:06.
Q. I was curious about something else, and again, you may not be able to answer this at all. But do you have any idea of what kind of blood level of, let's say, morphine one might expect to find in an autopsy of, let's say, an end-of-life cancer patient who's been given very substantial doses of morphine during the past -- the last two weeks of their life, for example?
A. Well, obviously I'd expect a fairly high level. What kind of level, I really don't know. We typically don't do a whole lot of tox on those kind of patients.
Q. Okay. Back to Exhibit 8. Can you identify Exhibit 8?
A. It looks like one of my reports.

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Q. Now, just a few questions about it. This is one of your reports.
A. Yes.
Q. And you've talked about your reports a good bit in your testimony, starting with you get a request from the pathologist to do a screen or a toxicology report.
A. Correct.
Q. Is -- does this reflect that? Is this the form, if you will, that you get?
I see at the top it's got "Specimen Type" and some information up here with X's --
A. No, this is -- this is the final report that I generate when I'm done with everything.
Q. All right. Does that top part request -- does that show what was requested by the pathologist up there to be done?
A. No.
Q. Okay.
A. It shows what kind of samples I have to work with. And to tell -- well, I take that back. Well, the "Testing Requested," they typically just write "Tox." This is a default. I automatically do ethanol and a drug screen.

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Q. Okay. Is this the Word document that you referred to?
A. It is.
Q. So this form exists in your computer and --
A. It does.
Q. Okay. Do you -- and you may not be able to give it any detail here, but is this form in use now, number one? This version of it that you're looking at?
A. It is.
Q. How long has that been --
A. Forever.
Q. Really?
A. Since I started, I pretty much haven't changed it.
Q. What about the -- the -- at the bottom where it says "Tested For"? That's a description of the screening that you've talked about?
A. Yes and no. I use the same form for police departments. And on -- on them, a lot of times they'll just order an alcohol. So up on the top where the "Testing Requested," I just order ethanol. This way I only charge

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them for an alcohol. Sometimes they'll order just a drug screen or both. So that's --
Again, this is a multiuse form. And if they only order an ethanol, obviously I don't include the drug screen blood and urine. I could delete all that. The bottom statement is strictly a default that's on every report. It's not complete. I do a lot more testing than this, so I try to be fairly general.
Q. Okay. So the screening could -- probably has changed, gotten different over the years?
A. The actual screen is much more comprehensive. I would need another whole sheet of paper just to list everything I screen for and test for, et cetera. This is basically just a default.
If you notice, blood and urine, positive, confirmed, identified, quantitated. Rather than listing everything, I just say what was screened positive, will be -- will be confirmed, and quantitative.
Q. And in the "Tested For" -- and this is, again, a curiosity question -- the volatiles that are listed, ethanol, methanol,

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isopropanol, are those -- which one is alcohol, or are they --
A. Ethanol is alcohol.
Q. Ethanol is always alcohol.
I've noted on some autopsy -- on some of the computer runs that we've been looking at in the cause of death, sometimes they'll say alcohol, sometimes they'll say ethanol. Technically, is it ethanol or --
A. It should say ethanol.
Q. It should say ethanol every time? But that would mean what we would all commonly refer to as alcohol?
A. Yeah. What you would commonly refer to as alcohol is a general term. Ethanol is the appropriate term. Obviously methanol is also an alcohol, but it's certainly much more lethal and dangerous, and it also -- or acetone -- again, the positive -- a positive methanol or isopropyl alcohol mean different things, as well as acetone.
You know, a diabetic, if I see acetone, I -- the reason I test for these is because, again, depending on what I find, I see different -- different causes. A positive

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acetone indicates a person that's diabetic. I may pursue a glucose level on a diabetic. You know, if I see acetone, he's throwing ketone bodies in his urine, I'm going to think that this guy has got a blood glucose of over 1,000. Very high. That could be a cause of death.

So there's a reason for testing all those different volatiles. But ethanol is the one that I typically see.

Q. Okay. And I'll ask what I would categorize as a stupid question, which is a specialty for me.

Have you always tested for methamphetamine?

A. Yes. Amphetamines is an -- is an easy way of calling the entire group. It should technically be called the phenethylamines. The company calls it amphetamines to encompass methamphetamine and amphetamine and actually Phentermine. And at one time it used to cross-react with a couple of other things. But the newer versions, within the last dozen or half a dozen years or so, are very specific to methamphetamine, amphetamine, and to some

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degree, ecstasy, or MDMA and MDA.

Q. Okay. When -- you discussed a lot the big increase or the return of meth, I think you --

A. Uh-huh.

Q. -- or that it came back. I think you may have referred to it that way.

A. I did something to that extent, yeah.

Q. Was -- was that return of methamphetamine as a driver or one of the drivers of deaths by overdose in Summit County, is that something that was known in the medical examiner's office? By that I mean, was it talked about? Was it an event, if you will, that was --

MS. KEARSE: Object to form.

Q. -- that was discussed?

A. Not that -- it wasn't that significant. You know, you read the newspapers, and Summit County had quite a few meth labs, so to speak. And for a while there I would read, oh, they busted another meth lab, and then, you know, the police departments and law enforcement would take a lot of credit for

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eradicating the methamphetamine labs. And then, you know, they're -- all of a sudden they're --

Who knows. The truth of it is I see peaks and valleys of various drugs, and when I talk about the return of meth -- I've just seen another peak of methamphetamine recently, meaning within the last four or five months, maybe a little longer. Whether it was known -- you know, I certainly talked about it.

I tell everybody, you know, and -- and, you know, the toxicology in Ohio is -- and pretty much everywhere, it's a small group of people, so we chitchat all the time. I talk to all my cohorts, whether it's in Columbus or Cincinnati or Cleveland, and we have various little meetings, and there's one coming up, and typically, I will go to all these and we share a lot of information. "What are you guys seeing?" You know, "This is what we're seeing down in Akron," et cetera, so. And currently everybody in the state is kind of seeing very similar things.

Q. Well, back to the annual reports that you talked about that don't list

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methamphetamine. And I'm not suggesting that this is necessarily the case at all, but we had a little bit of testimony about this.

If there was a -- an actual decision made to leave methamphetamine off of the annual report with knowledge that, you know, this is something that's happening here and it's obviously important, if an actual decision was made to leave it off with knowledge that it was important, would Patrick have made that decision himself, or is there somebody else who would?

MS. KEARSE: Object to form.

A. I don't know. You know, for me, this annual report is a waste of time. That's the way I look at it. I hate -- I'm brutally honest.

To Pat, it was his baby. You know, he's a computer guy. And he would spend a lot of time on doing this, and I'm thinking, "How do you justify screwing around all that time for doing that report that nobody looks at," to be brutally honest.

So I don't -- I don't think there was any intentional anything. He's not a tox

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person. Me, I would instantly notice that. I'm a tox person. Pat's a computer guy. The data is only as good as the data you retrieve.

And I'm sure part -- the problem was that he just fig- -- you know, I don't know how he does his searches. I'm sure you have to tell it what to look for. So if you don't tell it to look for meth, you're not going to see it.

And why he didn't, it could have been partly my fault. I don't know. He asked me a lot of stuff, and I tell him what to look for. Maybe I completely forgot. If it was my fault, I just don't know.

MR. EMCH: Okay. I'll pass.

EXAMINATION OF STEVE PERCH

BY MR. CARTER:

Q. Good afternoon.

A. Hi.

Q. We have not met. My name is Ed Carter. Got a couple questions for you. Because we've been going for a little bit. I'm going to jump around.

A. Okay.

Q. Try to be as quick as possible. If

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in jumping around, you lose track of where I am or have a question about what I'm asking for, will you let me know?

A. Sure.

Q. Okay. You discussed a moment ago the importance of tolerance, in addition to the potency of a drug generally, the tolerance is something you look at.

Do you agree that tolerance is a key variable in trying to assess the lethality of a drug dose?

MS. KEARSE: Object to form.

A. Depending on the concentration, yes.

Q. And is it -- is it true that there's no postmortem toxicology test you can run to establish tolerance of a deceased individual?

A. To establish tolerance? No.

Q. So is there a postmortem tox test for tolerance?

A. Not that I'm aware of.

Q. Okay. Is there a postmortem tox test for withdrawal?

A. Not that I'm aware of.

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Q. Switching topics.

In terms of the information that's in your tox report, there was an example marked as Exhibit 8. You also talked earlier about the manila folders and the hard raw data file that you have?

A. Correct.

Q. If we wanted to see the various things that you screened for, kind of the work behind the final report, the only place we could get that is the manila folder, right?

A. Correct.

Q. Okay. You mentioned how you set up -- you were asked some questions about kind of how the machines technically -- you know, what they print out and what you're actually looking at in terms of the raw data. You described setting up a standard curve of known concentrations based on response factor. Do you recall that?

A. Yes.

Q. And then you said you combined that with your gas chromatography-mass spectrometry machine, and that's gives you the printout, right?

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A. I run it. I run known concentration standards on the GC-MS. The data that that generates from my runs on that instrument is stored in the computer. I tell the computer run number one was -- and I'm making these levels up -- 10 nanograms per ml of morphine. Run No. 2 was 50. Run No. 3 was 100. Run No. 4 was whatever. And it will generate a standard curve of response factors for those five runs against the concentrations.

Then when I run my unknowns, it takes my -- the response factor of my unknown and goes, like a standard curve, goes along until that response factor is calculated from that standard curve, and it gives me a concentration.

Q. Would those -- those run -- runs, the data that comes from them, those standard curves, would those all be included in the raw data in your --

A. Correct.

Q. -- manila folder file?

A. Correct.

Q. Are the runs that you put in, do they vary from case to case, or do you have

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kind of a standard set of parameters that you typically use?
A. Rephrase that.
Q. Sure. If we compared five different manila folders where you were testing -- when you -- where you were running the same panels, would the parameters that you set up for each run, are those standard to you? Are they things that you tweak over time?
A. Oh, I tweaked them over time. But put it this way. I try to batch things as much as possible. If you look at this case, I have two different quantitative runs. Now, obviously for qualitative, there is no standard curve. But for quantitative, I'm going to have a standard curve for benzoylecgonine and a standard curve for oxycodone.
Now, I get a lot of cokes, so I may -- in a week I may have six or seven positive cocaines. I'll batch all those patients together in one run. And by "one run" I mean I'll run my three quality control materials and the additional six patients, so I have nine samples all together. I don't rerun the standard curve every time, no. I use the

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same standard curve, and I use my quality control material to validate that standard curve, unless I change something drastically, like an internal standard or a column or do something to the instrument that's going to negate, you know, my standard curve. My standard curve I verify by running controls.
And my controls are assayed material that have an acceptable level that they have to fall within. So as long as that's met, that's how I validate the rest of the samples.
Q. In terms of the standard curves, when you have a batch, let's say there's five in the batch, if we go to those five manila folders, will it have not only the results for each of those runs, but something that shows what that standard control, what the validation results were for that?
A. Yeah. It will have -- it's in the exact run. I actually photocopy everything, the entire file, and stick it in each folder.
Q. And when you --
A. So they'll be identical.
Q. Okay. When you set up those

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control runs, do you use one of those reference sources that you set? You know, that you talked about? What -- what causes you --
A. I purchase -- I purchase my quality control from a variety of sources. The conventional drugs I purchase from a company that's a worldwide company known as Bio-Rad. Bio-Rad is the leader in quality control material; typically for, certainly, all the hospitals, but they do make a lot of forensic controls. So for the routine stuff, the morphine, they actually make a free morphine control. Cocaine, the cokes, the methamphetamines, et cetera, I purchase it from Bio-Rad.
The Fentanyls and some of the more esoteric drugs are pretty much small, niched kind of markets. I have to make -- I have to get them custom made. They're very expensive. So I get them custom made typically from a company known as UTAC or Quality Assurance Services. And again, I tell them what concentration I want it in and what kind of analytes I want in it, and it's basically a freeze-dried material that you reconstitute,

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and you get it, and it's made to the specifications I give them.
Q. And so if I wanted to figure out the data to kind of fully replicate what your work process was, once again, that would all be in the manila folder?
A. It's all in the manila folder.
Q. Okay. Then I will -- I will short-circuit that series and just deal with the manila folder on that.
A. Okay.
Q. Switching topics.
When you -- when you come across contraband, is the practice to identify visually and say, "Oh, you know, this looks like everything else. We know what this is," or do you still always test it to verify that the substance is what it appears to be?
A. You know, do I test the contraband? Is that what your question is?
Q. Yeah, like when you're working with the PD.
A. When I'm working with the PD, that's a whole different ball game. That's all they do, so obviously you have to test all that

contraband. You have to test it. You have to weigh it. And if there's six packets of the same pill -- let's say there's 20 blister packs, and each one has 20 pills in it, you have to test one pill out of each blister pack. So it's very monotonous, but it's very legal and forensic kind of stuff.

Q. And in your experience, have you seen instances where synthetic drugs are manufactured to mimic other substances?

A. Yes.

Q. Have you seen U-47700?

A. Yes.

Q. And does that mimic oxycodone?

A. The actual visual pill?

Q. Yes.

A. I -- I haven't seen that. I've seen U-477 in the -- 47770 in the analysis. I've analyzed a couple of different samples with U-47. I have not seen the actual contraband. I mean, I guess it could. It can mimic pretty much anything.

Q. Okay. Have you come across Xanax laced with Fentanyl?

A. I've run across alprazolam and

Fentanyl in patients. I don't know if it's because it was laced with Fentanyl or if they came from two different sources. Again, that's all the contraband stuff. I don't do a whole lot of that. Most -- the bulk of my work is the biological specimens.

Q. Okay. All right. When -- switching gears again.

When did you first understand that prescription opioids could be abused and cause death?

MS. KEARSE: Object to form.

A. When did I first learn of that?

Q. Yes.

A. When I was 20 years old.

MR. CARTER: Okay. All right. No further questions. Thank you.

MS. KEARSE: Why don't we take a break?

THE VIDEOGRAPHER: We're off the record, 2:27.

(A recess was taken.)

THE VIDEOGRAPHER: We're back on the record. The time is 2:40.

EXAMINATION OF STEVE PERCH

BY MS. KEARSE:

Q. Okay, Mr. Perch. I just have a couple of follow-up questions, and we've been here for a good number of hours with that.

But just at the end of your testimony, the court reporter finished and we were done with your testimony, you turned to counsel and you said you were just being facetious about knowing that opioids had been abused since you were 20 years old.

Do you recall that?

MR. CARTER: Form.

A. I do.

Q. Okay. And that was kind of an off-the-cuff remark?

A. Yeah, yes.

Q. And did you -- did you learn about the opioids and study opioids in toxicology while you were studying in school?

A. Well, again --

Q. For toxicologists?

A. -- it's my field. My field requires me to, obviously, understand addiction and tolerance and all those issues.

The point I was trying to make,

it's been a while. I've been in this field for 40 years, and obviously I know about that stuff because that's my area of expertise.

Q. And -- appreciate that. Mr. Perch, the -- Mr. Carter asked you some questions about setting known concentration levels on your immunoassays. Do you remember that -- that question? Just the last line of questioning?

A. The known --

Q. Concentrations on your --

A. -- on my immunoassay?

Q. Yes.

A. Yeah.

Q. I just want to be clear, that those levels are to detect for the presence of a chemical compound, correct?

A. Those are detection levels of how much drug would turn up positive versus negative; at what level it turns to positive versus negative.

Q. It's not to detect any minimum level related to the lethal dose of a drug, correct?

MR. CARTER: Form.

A. No, it has nothing to do with lethal levels.

MS. KEARSE: No further questions.

MR. CARTER: Just one followup.

EXAMINATION OF STEVE PERCH

BY MR. CARTER:

Q. Facetious or not, bottom line is you've understood as long as you've been in your field that prescription opioids could be abused and cause death, fair?

MS. KEARSE: Object to form.

A. Fair.

MR. CARTER: No further questions.

THE VIDEOGRAPHER: Anything else? We're off the record at 2:41.

(Deposition concluded at 2:41 p.m.)

~ ~ ~ ~ ~

Whereupon, counsel was requested to give instructions regarding the witness's review of the transcript pursuant to the Civil Rules.

SIGNATURE:

Transcript review was requested pursuant to the applicable Rules of Civil Procedure.

TRANSCRIPT DELIVERY:

Counsel was requested to give instructions regarding delivery date of transcript.

REPORTER'S CERTIFICATE

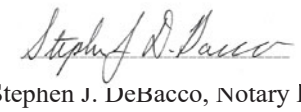
The State of Ohio,)
SS:
County of Cuyahoga.)

I, Stephen J. DeBacco, a Notary Public within and for the State of Ohio, duly commissioned and qualified, do hereby certify that the within named witness, STEVE PERCH, was by me first duly sworn to testify the truth, the whole truth and nothing but the truth in the cause aforesaid; that the testimony then given by the above-referenced witness was by me reduced to stenotypy in the presence of said witness; afterwards transcribed, and that the foregoing is a true and correct transcription of the testimony so given by the above-referenced witness.

I do further certify that this deposition was taken at the time and place in the foregoing caption specified and was completed without adjournment.

I do further certify that I am not a relative, counsel or attorney for either party, or otherwise interested in the event of this action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Cleveland, Ohio, on this 23rd day of October, 2018.



Stephen J. DeBacco, Notary Public within and for the State of Ohio

My commission expires September 30, 2022.

Veritext Legal Solutions
1100 Superior Ave
Suite 1820
Cleveland, Ohio 44114
Phone: 216-523-1313

October 23, 2018

To: Motley Rice LLC

Case Name: In Re: National Prescription Opiate Litigation v.

Veritext Reference Number: 3058687

Witness: Steve Perch Deposition Date: 10/18/2018

Dear Sir/Madam:

Enclosed please find a deposition transcript. Please have the witness review the transcript and note any changes or corrections on the included errata sheet, indicating the page, line number, change, and the reason for the change. Have the witness' signature notarized and forward the completed page(s) back to us at the Production address shown above, or email to production-midwest@veritext.com.

If the errata is not returned within thirty days of your receipt of this letter, the reading and signing will be deemed waived.

Sincerely,
Production Department

NO NOTARY REQUIRED IN CA

DEPOSITION REVIEW
CERTIFICATION OF WITNESS

ASSIGNMENT REFERENCE NO: 3058687
CASE NAME: In Re: National Prescription Opiate Litigation v.
DATE OF DEPOSITION: 10/18/2018
WITNESS' NAME: Steve Perch

In accordance with the Rules of Civil Procedure, I have read the entire transcript of my testimony or it has been read to me.

I have made no changes to the testimony as transcribed by the court reporter.

_____ _____
Date Steve Perch

Sworn to and subscribed before me, a Notary Public in and for the State and County, the referenced witness did personally appear and acknowledge that:

They have read the transcript;
They signed the foregoing Sworn Statement; and
Their execution of this Statement is of their free act and deed.

I have affixed my name and official seal

this _____ day of_____, 20____.

_____
Notary Public

_____
Commission Expiration Date

DEPOSITION REVIEW
CERTIFICATION OF WITNESS

ASSIGNMENT REFERENCE NO: 3058687
CASE NAME: In Re: National Prescription Opiate Litigation v.
DATE OF DEPOSITION: 10/18/2018
WITNESS' NAME: Steve Perch

In accordance with the Rules of Civil Procedure, I have read the entire transcript of my testimony or it has been read to me.

I have listed my changes on the attached Errata Sheet, listing page and line numbers as well as the reason(s) for the change(s).

I request that these changes be entered as part of the record of my testimony.

I have executed the Errata Sheet, as well as this Certificate, and request and authorize that both be appended to the transcript of my testimony and be incorporated therein.

_____ _____
Date Steve Perch

Sworn to and subscribed before me, a Notary Public in and for the State and County, the referenced witness did personally appear and acknowledge that:

They have read the transcript;
They have listed all of their corrections in the appended Errata Sheet;
They signed the foregoing Sworn Statement; and
Their execution of this Statement is of their free act and deed.

I have affixed my name and official seal

this _____ day of_____, 20____.

_____
Notary Public

_____
Commission Expiration Date

ERRATA SHEET
VERITEXT LEGAL SOLUTIONS MIDWEST
ASSIGNMENT NO: 10/18/2018

PAGE/LINE(S) / CHANGE /REASON

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Date Steve Perch

SUBSCRIBED AND SWORN TO BEFORE ME THIS _____
DAY OF _____, 20_____ .

_____
Notary Public

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Commission Expiration Date

j

z

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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VERITEXT LEGAL SOLUTIONS
COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

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